

## BALLISTIC MISSILE DEFENSE

## **GLOSSARY**

Version 2.0

#### DISTRIBUTION STATEMENT A

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DEPARTMENT OF DEFENSE BALLISTIC MISSILE DEFENSE ORGANIZATION 7100 DEFENSE PENTAGON WASHINGTON, DC 20301-7100

### PREFACE AND ACKNOWLEDGMENTS

#### PURPOSE

The purpose of this glossary is to facilitate a common language within the Ballistic Missile Defense Organization (BMDO) and the ballistic missile defense community. This glossary supplements other existing Department of Defense (DoD) publications.

#### SCOPE

This glossary is not an official DoD publication; it is limited to terminology that relates to ballistic missile defense. A number of computer, software, and engineering terms are included, especially those applicable to BMD. In addition, numerous acquisition terms are included in light of BMDO's ongoing transition to a more acquisition-oriented agency. Many entries are taken from the DoD 5000-series of directives, the DoD program objective memorandums, the Joint Staff Glossary (Joint Pub 1-02), and the Defense Systems Management College Glossary. A number of outdated or seldom-used terms are also included for historical relevance, though obsolete terms are denoted.

#### WORLD WIDE WEB

The BMDO Glossary can be found on the BMDO World Wide Web home page at http://www.acq.osd.mil/bmdo/bmdolink/html/bmdolink.html.

#### **FORMAT**

All entries are listed in alphabetical order, including acronyms (which are cross-referenced with their corresponding definition). General terms are defined in a BMD context where appropriate. In cases where a term has more than one BMD-related meaning, multiple definitions are given. Wherever possible, organizational changes occurring since publication of the September 1994 BMDO Glossary are incorporated. Please note that abbreviations and acronyms listed herein are capitalized for ease of reference. This does not imply that they are capitalized in general usage.

#### GENERAL

This edition of the BMD Glossary benefited from inputs received from officials of the BMDO, the Services, and the BMD community at large. BMDO/SR wishes to thank those whose efforts and support contributed to the timeliness and relevance of this revision.

Naturally, this glossary is most useful when it is current; however, the nature of our program makes this difficult. To help keep this book a useful reference tool for everyone, please send copies of glossaries or acronym lists that your office has published in recent documents. To the extent that resources are available, we will also try to check periodically for new terms and acronyms.

BMDO Glossary, ver. 2.0 supersedes the BMDO Glossary dated 6 September 1994.

Changes or corrections may be submitted at any time to:

Ballistic Missile Defense Organization Deputy for Strategic Relations (BMDO/SR) 7100 Defense Pentagon Washington, DC 20301-7100

## **Notes**

A Spec

System Specification.

AA

See Attack Assessment.

AAA

1. Antiaircraft Artillery. 2. Assign Alternate Area. 3. AEGIS Acquisition Agent.

AABCP

Advanced Airborne Command Post.

AACC

Airborne Alternate Command Center.

AADC

Area Air Defense Commander.

**AADCOM** 

Army Air Defense Commander.

AAE

Army Acquisition Executive.

AAFCE

Allied Air Forces Central Europe.

AASP

Advanced Airborne Sensor Platform.

AAW

Anti-Air Warfare.

**AAWC** 

Anti-Air Warfare Commander.

T&A

Acquisition and Technology.

**ABCCC** 

Airborne Battlefield Command and Control Center.

(US C-130 aircraft)

ABE

Army Background Experiment (flew aboard the LACE spacecraft).

ABL

1. Airborne Laser. 2. Aircraft Based Laser. 3. Armored Box Launcher.

**Ablative Shield** 

A shield made of material that vaporizes when heated, absorbing thermal energy and protecting the shielded object from heat damage.

Ablative Shock

A mechanical shock wave at the surface of an object exposed to intense pulsed electromagnetic radiation. A thin layer of the object's surface violently and rapidly boils off; the resulting vapor suddenly exerts pressure against the surface, generating a pressure wave at the surface. This shock wave then propagates through the material and can cause melting, vaporization, spallation, and structural failure of the object.

ABM

See Anti-Ballistic Missile.

**ABMDA** 

OBSOLETE. Advanced Ballistic Missile Defense Agency.

**ABM Treaty** 

Anti-Ballistic Missile Treaty of 1972, signed and ratified by the (former) Soviet Union and the United States, limiting deployment on each side to one site comprising 100 interceptors, 100 launchers, and several ground-based radars.

The Treaty also regulates development and testing.

ABM-X-3

A terminal Soviet anti-ballistic missile (ABM) defense system using transportable phased-array radars and both long and short-range, high acceleration interceptors similar to the U.S. Sprint. This system was developed and tested in the 1970's and early 1980's.

**ABNCP** 

Airborne National Command Post.

A/BPI

Ascent/Boost-Phase Interceptor.

**ABT** 

Air-Breathing Threat.

ACA

Airspace Control Authority.

**ACAP** 

Advanced Capabilities.

ACAT

Acquisition Category.

ACC

- 1. Air Combat Command (USAF), Langley AFB, VA.
- 2. Access Control Center. 3. Air Component Commander.
- 4. Area Coordination Center.

ACCS

Air Command and Control System.

Accidental Launch An unintended launch which occurs without deliberate national design as a direct result of a random event, such as mechanical failure, a simple human error, or an unauthorized action by a subordinate. (USSPACECOM)

ACCS

Automated Command and Control System (USN AN/TSQ-73)

ACE

- 1. Anti-Radiation Missile (ARM) Countermeasure Evaluator.
- 2. Aviation Combat Element. 3. Airborne Command Element (USAF).
- 4. Allied Command Europe.

**ACES** 

Arrow Continuation Experiments.

ACM

Air Combat Maneuvering.

ACOM

Atlantic Command.

ACQ

See Acquisition.

Acquire

1. When applied to acquisition radars, to detect the presence and location of a target in sufficient detail to permit identification. 2. When applied to tracking radars, to position a radar beam so that a target is in that beam to permit the effective employment of weapons. (See Target Acquisition.)

Acquisition (ACQ)

1. (Sensor) The results of processing sensor measurements to produce object reports of interest to the system. 2. (Material) The conceptualization, initiation, design, development, testing, contracting, production, deployment, logistic support, modification, and disposal of weapons and other systems, supplies or services to satisfy DoD needs in support of military missions.

## Acquisition Categories

Categories established to facilitate decentralized decision making and execution and compliance with statutorily imposed requirements. The categories determine the level of review, decision authority, and applicable procedures.

- Acquisition Category I. These are "major defense acquisition programs."
   They have unique statutorily imposed acquisition strategy, execution, and reporting requirements. Milestone decision authority for these programs is:
   (a) the Under Secretary of Defense for Acquisition and Technology -- acquisition category ID;
   (b) if delegated by the Under Secretary, the Cognizant DoD Component Head -- acquisition category IC;
   (c) if delegated by the Component Head, the Component Acquisition Executive.
- 2. Acquisition Category II. Milestone decision authority for these programs is delegated no lower than the DoD Component Acquisition Executive. They have unique statutorily imposed requirements in the test and evaluation area
- 3. Acquisition Category III and IV. The additional distinction of acquisition categories III and IV allow DoD Component Heads to delegate milestone decision authority for these programs to the lowest level deemed appropriate within their respective organizations.

## Acquisition Decision Memorandum (ADM)

A memorandum signed by the milestone decision authority that documents decisions made and the exit criteria established as the result of a milestone decision review or in-process review.

#### Acquisition Field of View (FOV)

The instantaneous volume viewed by the interceptor's sensor during the process of searching its assigned volume.

## Acquisition Life Cycle

Five phases, each preceded by a milestone or other decision point, during which a system goes through research, development, test and evaluation, and production. The phases are Concept Exploration and Definition, Demonstration and Validation, Engineering and Manufacturing Development, Production and Deployment, Operations and Support.

#### Acquisition Logistics

Process of systematically identifying and assessing logistics alternatives, analyzing and resolving logistics deficiencies, and managing integrated logistics support throughout the acquisition process.

#### Acquisition Management

Management of all or any of the activities within the broad spectrum of "acquisition." Also includes management of the training of the defense acquisition workforce, and management activities in support of PPBS for defense acquisition systems/programs.

#### **Acquisition Plan**

A formal written document reflecting the specific actions necessary to execute the approach established in the approved acquisition strategy and guiding contractual implementation. (See Federal Acquisition Regulation Subpart 7.1 and Defense Federal Acquisition Regulation Supplement Subpart 207.1.)

## Acquisition Planning

The process by which the efforts of all personnel responsible for an acquisition are coordinated and integrated through a comprehensive plan for fulfilling the need in a timely manner and at a reasonable cost. It is performed throughout the life cycle and includes developing an overall acquisition strategy for managing the acquisition and a written acquisition plan.

## Acquisition Program

A directed, funded effort that is designed to provide a new or improved materiel capability in response to a validated need.

#### Acquisition Program Baseline (APB)

Acquisition program baselines embody the cost, schedule, and performance objectives for the program. The APB is approved by the milestone decision authority milestone reviews as follows:

- Concept Baseline, approved at Milestone I, applied to the effort in Phase I, Demonstration and Validation.
- Development Baseline, approved at Milestone II, is applied to the effort in Phase II, Engineering and Manufacturing Development.
- Production Baseline, approved at Milestone III, is applied to the effort in Phase III, Production and Deployment.

Each baseline must contain objectives for key cost, schedule, and performance parameters. Objectives are accompanied by minimum requirements called thresholds. Once signed by the milestone decision authority, APBs may only be changed at subsequent milestone or program reviews, or with the approval of the milestone decision authority as a response to an unrecoverable baseline deviation.

## Acquisition Radar

Radar that searches a spatial volume and identifies potential targets from the background and non-hostile objects.

#### Acquisition Risk

The chance that some element of an acquisition program produces an unintended result with an adverse effect on system effectiveness, suitability, cost, or availability for deployment.

#### Acquisition/ Reacquisition Time

The time required to establish or reestablish lock on the received signal. This includes carrier, symbol, frame, code, and crypto synchronization.

## Acquisition Strategy

A business and technical management approach designed to achieve program objectives within the resource constraints imposed. It is the framework for planning, directing, and managing a program. It provides a master schedule for research, development, test, production, fielding, and other activities essential for program success, and, is the basis for formulating functional plans and strategies (e.g., Test and Evaluation Master Plan, Acquisition Plan, competition, prototyping, etc.).

#### Acquisition Strategy Report

Describes the acquisition approach to include streamlining, sources, competition, and contract types throughout the period from the beginning of Phase I, Demonstration and Validation, through the end of production.

## Acquisition Streamlining

Any effort that results in more efficient and effective use of resources to develop or produce quality systems. This includes ensuring that only necessary and cost-effective requirements are included, at the most appropriate time in the acquisition cycle, in solicitations and resulting contracts for the design, development, and production of new systems, or for modifications to existing systems that involve redesign of systems or subsystems.

#### Acquisition, Tracking and Pointing (ATP)

The process of acquiring within a given field of view a target (or targets) and maintaining a precision track of the same while enabling the pointing of a sensor or weapon at the target so that it may be destroyed.

ACS

Airspace Control System.

ACS

1. Attitude Control System. 2. AEGIS Combat System. 3. Assistant Chief of Staff.

**ACSIS** 

AEGIS Combat System Interface Simulation.

ACTD

See Advanced Concept Technology Demonstration.

**ACTEX** 

Advanced Controls Technology Experiment.

Active

In surveillance, an adjective applied to actions or equipment which emit energy capable of being detected, e.g., radar is an active sensor.

#### Active Air Defense

Direct defensive actions taken to nullify or reduce the effectiveness of hostile air action. It includes such measures as the use of aircraft, air defense weapons, weapons not used primarily in an air defense role and electronic warfare.

#### Active Communications Security Threat

Threats to an electronic system posed by a capability to disrupt communications or to seize control or deny positive control of electronic systems to intended users, e.g., jamming and imitative deception.

#### **Active Defense**

1. The employment of limited offensive action and counterattacks to deny a contested area or position to the enemy. See also Passive Defense. 2. In-flight intercept and destruction of ballistic missiles and negation of their warheads.

## Active Defense (TBMD)

Active defense protects against theater missiles by destroying them in flight. Engagement capability is required throughout all phases of the missile's trajectory (boost, post-boost, mid-course, and terminal) to prevent saturation of point defense, to negate warhead effects, and to ensure minimal leakage in defending critical assets. Therefore, active defenses must consist of defense in depth to provide multiple engagement opportunities with differing technologies, increasing the probability of kill, and countering the enemy's counter-measure efforts. Active defenses could consist of space-, air-, ground-, and sea-based systems. If a strategic ballistic missile defense system is deployed, the active TMD should be supported by, but not limited by, those systems to increase the defense in the theater of operations. Active defense is considered one of the four pillars of TMD capability. (JCS J-38 CONOPS)

**Active Homing** 

**Active Sensor** 

Guidance

Guidance system in which both the source for illuminating the target, and the receiver for detecting the illuminating energy reflected from the target are carried within the missile. (See Guidance.)

One that illuminates a target, producing return secondary radiation, which is then detected to track and/or identify the target. An example is radar.

ACTS

AEGIS Combat Training System.

ACUS

Army Common User System.

ΑD

Air Defense.

ADA

Air Defense Artillery.

**ADAPT** 

Advanced DEW Active Precision Tracker.

**Adaptive Defense** 

(Also Adaptive Preferential Defense) Adaptive defense is defense that is responsive to an actual attack in that it takes advantage of the structure or weakness of the attack to maximize a priority defense objective.

Adaptive Flexible Defense (AFD)

The ability to select and prioritize in near-real time what critical civilian and military assets and functions to defend and to efficiently employ defense in response to the characteristics of the attack while effectively enforcing defense priorities. (JOSDEPS)

Adaptive Optics (ADOPT)

Optical systems which can be modified (e.g., by controlling the shape of a mirror) to compensate for distortions. An example is the use of information from a beam of light passing through the atmosphere to compensate for the distortion suffered by another beam of light on its passage through the atmosphere. Used to eliminate the "twinkling" of stars in observational astronomy and to reduce the dispersive effect of the atmosphere on laser beam weapons.

Adaptive Preferential Defense See Adaptive Defense.

**ADATOC** 

Air Defense Artillery Tactical Operations Center (USA brigade).

**ADCC** 

Air Defense Control Center.

ADCOM

OBSOLETE. (U.S.) Aerospace Defense Command, Peterson AFB, CO.

**ADCP** 

1. Air Defense Communications Platform. 2. Air Defense Command Post.

ADDA

Air Defense Decision Aid.

**ADDS** 

Air Defense Demonstration System.

ADI

Air Defense Initiative.

ADIZ

Air Defense Identification Zone.

ADM

1. See Acquisition Decision Memorandum 2. Advanced Development Model.

**Administrative** Contracting Officer (ACO)

The government contracting officer located at a contract administrative office who is assigned the responsibility for administration of Government contracts.

(Defense Systems Management College Glossary)

**ADOC** 

See Aerospace Defense Operations Center.

ADOCC

Air Defense Operations Control Center.

ADOPT

See Adaptive Optics.

**ADSAM** 

Air-Directed Surface-to-Air Missile.

ADSI

Air Force Defense Systems Integrator.

**ADTOC** 

Air Defense Tactical Operations Center.

Advance Funding

Budget authority provided in an appropriation act that allows funds to be committed to a specific purpose (obligated) and spent during this fiscal year even though the appropriation actually is for the next fiscal year. Advance funding generally is used to avoid requests for supplemental appropriations for entitlement programs late in a fiscal year when the appropriations for the current fiscal year are too low.

**Advance Procurement**  Authority provided in an appropriations act to obligate and disburse from the succeeding year's appropriation. The funds are added to the budget authority for the fiscal year and deducted from the budget authority of the succeeding fiscal year. Used in major acquisition programs for advance procurement of components whose long-lead time require purchasing early in order to reduce Advance procurement of long lead the overall procurement lead time. components is an exception to the DoD "full funding" policy.

Advanced Concept Technology Demonstration (ACTD)

An integrating effort to assemble and demonstrate a significant new military capability, based upon maturing advanced technology(s) in a real-time operation at a scale size adequate to clearly establish operational utility and system integrity.

**Advanced Launch** System (ALS)

OBSOLETE. This proposed system was to be a heavy launch vehicle and appropriate ground support facilities which may have supported SDIO, USAF, Navy and NASA space launch missions into the next century.

Advanced Technology **Demonstration**  The actual demonstration of an advanced state-of-the-art system under conditions likely to exist when in operation.

**ADWC** 

Air Defense Warfare Center.

AΕ

Acquisition Executive.

**AEDC** 

Arnold Engineering Development Center, Arnold AFB, TN.

**AEGIS** 

The Navy's advanced, fast reaction, high firepower, shipboard anti-air warfare area defense system (Greek word for "shield").

Aerospace Defense (AD) 1. All defensive measures designed to destroy attacking enemy aircraft, missiles, and space vehicles after they leave the Earth's surface, or to nullify or reduce the effectiveness of such attacks. 2. An inclusive term encompassing air defense and space defense.

Aerospace
Defense
Operations
Center (ADOC)

Existing center in Cheyenne Mountain AFB (CMAFB) which controls the Air Defense of North America mission.

Aerothermal Kill

A kill in which the thermal shielding of the target RV is damaged by the defensive system. The RV is subsequently destroyed during reentry.

**AEW** 

Airborne Early Warning.

AFAE

Air Force Acquisition Executive.

**AFCC** 

See Air Force Component Commander.

AFCCC

Air Force Component Command Center.

**AFCS** 

Automatic Flight Control System.

AFD

See Adaptive Flexible Defense.

**AFDSOC** 

Air Force Defense System Operations Center.

AFFTC

Air Force Flight Test Center, Edwards AFB, CA.

**AFGWC** 

See Air Force Ground/Global Weather Center.

**AFID** 

Anti-Fratricide Identification Device.

**AFMC** 

Air Force Material Command, Wright-Patterson AFB, Ohio.

AFOTEC

See Air Force Operational Test and Evaluation Center.

AFSARC

Air Force System Acquisition Review Council.

AFSATCOM

See Air Force Satellite Communications System.

AFSB

Air Force Science Board.

AF/SC

Deputy Chief of Staff for Command, Control, Communications, and Computers,

United States Air Force.

**AFSCN** 

See Air Force Satellite Control Network.

AFSD

OBSOLETE. Air Force Space Division. (Replaced by USAF/SMC.)

**AFSPOC** 

See Air Force Space Operations Center.

**AFSTC** 

1. Air Force Space Test Center, Sunnyvale, CA. 2. Air Force Space Technology

Center, Kirtland AFB, NM.

**AFWL** 

Air Force Weapons Laboratory (Phillips Lab).

AGARD

Advisory Group for Aerospace Research and Development.

AGMC

Air Force Aerospace Guidance and Metrology Center (Newark AFB, OH).

AGT

Above Ground Test.

AHIS

Agile Homing Interceptor Simulator.

AHSG

Ad Hoc Study Group.

ΑI

1. See Artificial Intelligence. 2. Action Item. 3. Air Interdiction.

AIAA

American Institute of Aeronautics and Astronautics

AID

Agile Interceptor Development.

AIDA

Artificial Intelligence Discrimination Architecture (UKMOD).

AIDPN

Architecture Investment and Deployment Planning Notebook.

**Aimpoint** 

The specific point at which a weapon is aimed. The point may be on the earth's surface, in the atmosphere, or in space. In some cases, the specific

lethal point on a target to which a weapon is aimed.

AIP

Advanced Interceptor Program (formerly Brilliant Pebbles).

Airborne
Optional Adjunct
(AOA)

A test program to place an infrared (IR) sensor in an aircraft. (Superseded by

Airborne Surveillance Testbed (AST).)

Airborne Surveillance Testbed (AST) A Boeing 767 aircraft with a large infrared sensor designed to address optical

sensor issues.

Air-breathing

A flying vehicle that uses the oxygen in the atmosphere as the oxidizer in its propulsion system. Examples are jet aircraft and cruise missiles. This category

does not include ballistic missiles.

Air Defense

All measures designed to nullify or reduce the effectiveness of hostile air

action. See also active air defense, passive air defense.

Air Defense Action Area An area and the airspace above it within which friendly aircraft or surface-to-air weapons are normally given precedence in operations except under specific

conditions. See also air defense operations area.

#### Air Defense Artillery

Weapons and equipment for actively combating air targets from the ground.

## Air Defense Identification Zone

Airspace of defined dimensions within which the ready identification, location, and control of airborne vehicles are required. Commonly referred to as ADIZ. See also air defense operations area.

#### Air Defense Operations Area

A geographic area defining the boundaries within which procedures are established to minimize interference between air defense and other operations. May include designation of one or more of the following: A. Air defense action area; B. Air defense area; C. Air defense identification; D. Fire power umbrella.

## Air Force Component Command Center (AFCCC)

A segment of the Command and Control Element which replicates capabilities of the CCC (BMD) segment and provides administrative and logistics support to Air Force Component Forces with the Strategic Defense System. The AFCCC was eliminated from the CCE (now  $C^2E$ ) architecture during the last SAS system architecture definition update.

#### Air Force Ground/Global Weather Center (AFGWC)

AFGWC provides Air Force and Army with global information and products relating to past, present, and future states of the aerospace environment. Weather data is provided to the Weather Support Unit (WSU) for use by the SDS. Also provides space environmental data such as sunspots, electromagnetic storms, etc. Located at Offutt AFB, NE.

# Air Force Operational Test and Evaluation Center (AFOTEC)

Responsible for the operational test and evaluation of systems being developed for use by the Air Force (Located at Kirtland AFB, NM).

# Air Force Satellite Communications System (AFSATCOM)

A collection of transponders on host satellites used by U.S. Strategic Command to pass emergency action messages (EAM) and damage assessment reports. AFSATCOM is also used to pass sensor data between sites and CMAFB.

#### Air Force Satellite Control Network (AFSCN)

A global, multi-command configuration of space vehicle command, control, and communications resources operating in concert to support DoD and other assigned space missions.

#### Air Force Space Command (AFSPC)

A major Air Force command and the Air Force component of United States Space Command responsible for the training, equipping, manning, administering, and funding of assigned systems. Located in Colorado Springs, CO.

#### Air Force Space Operations Center (AFSPOC)

An AFSPACECOM center responsible for the daily tracking of events at remote operational sites. It may be updated and assigned responsibility for logistics and administrative control of assigned SDS elements. Located in Colorado Springs, CO.

Airspace Control in the Combat Zone

A process used to increase combat effectiveness by promoting safe, efficient, and flexible use of airspace. Airspace control is provided in order to prevent fratricide, enhance air defense operations, and permit greater flexibility of operations. Airspace control does not infringe on the authority vested in commanders to approve, disapprove, or deny combat operations.

Airspace Control

The document approved by the joint force commander that provides specific planning guidance and procedures for the airspace control system for the joint force area of responsibility.

Air Surveillance

The systematic observation of airspace by electronic, visual, or other means, primarily for the purpose of identifying and determining the movements of aircraft and missiles, friendly and enemy, in the air space under observation.

AIS

See Automated Information System.
 Architecture Integration Study.
 Airborne Intercept System.

AIT

Advanced Interceptor Technologies.

AJ

Antijam.

ΑL

Acquisition Logistician.

ALARM

Alert, Locate, and Report Missiles.

**ALAS** 

Advanced Liquid Axial Stage.

**ALBCS** 

Airborne Laser Beam Control System.

ALC

Air Logistics Center (AF).

**ALCOR** 

ARPA/Lincoln C-band observable radar. (USAKA KREMS)

ALCM

See Air Launched Cruise Missile.

ALE

Airborne Laser Experiment.

**ALERT** 

See Attack and Launch Early Reporting to Theater.

ALI

Alpha/LAMP Integration.

ALL

Airborne Laser Laboratory.

Allocated Availability Requirement The requirement probability that an element is available to perform its function as allocated by the SDS.

Allocation

1. An authorization by a designated official of a DoD component making funds available within a prescribed amount to an operating agency for the purpose of making allotments (i.e., the first subdivision of an apportionment). 2. The translation of the apportionment into total numbers of sorties by aircraft type available for each operation/task.

Allotment

The temporary change of assignment of tactical air forces between subordinate commands. The authority to allot is vested in the commander having

operational command.

Alpha Particle

A particle emitted spontaneously from the nuclei of some radioactive elements. It is identical to a helium nucleus, having a mass of four units and a charge of

positive two. (See Radioactivity.)

**ALPS** 

Accidental Launch Protection System.

ALS

See Advanced Launch System.

ALT

Airborne Laser Technology.

**ALTAIR** 

UHF test radar at USAKA.

**Alternate National** 

Military

An element of the National Military Command System (NMCS) which serves as an alternate to the NMCC. Located at Ft. Ritchie, MD.

Command Center (ANMCC)

Alternate

Processing and Correlation Center

(APCC)

NORAD capability in USSTRATCOM Command Post that receives, processes, and analyzes TW/AA information.

Alternate Space Defense Operations Center

(ASPADOC)

The backup to the SPADOC, maintained by the Naval Space Command, at Dahlgren, VA, collocated with the NAVSPOC and NAVSPASUR.

AMC

1. Air Mobility Command, Scott AFB, IL. 2. See Army Materiel Command. 3.

Midpoint Compromise Search Area.

**AMDS** 

Active Missile Defense System.

AMEMB

American Embassy.

**AMFB** 

Acquisition Management Functional Board.

AMG

Antenna mast group.

**AMOR** 

Army Missile Optical Range.

**AMOS** 

Air Force Maui Optical Station.

**AMRAAM** 

Advanced Medium Range Air-to-Air Missile.

**AMSAA** 

Army Materiel Systems Analysis Agency.

AMTL

Army Materials Technology Laboratory.

AN/TPS-59

USMC Firefinder radar.

ANMCC

See Alternate National Military Command Center.

ANSI

American National Standards Institute.

Antenna Area

The ratio of the power available at the terminals of an antenna to the incident power density of a plane wave from the direction polarized.

**Antiair Warfare** 

Action required to destroy or reduce to an acceptable level the enemy air and missile threat. It includes such measures as the use of interceptors, bombers, antiaircraft guns, surface-to-air and air-to-air missiles, electronic countermeasures, and destruction of the air or missile threat both before and after it is launched. Other measures taken to minimize the effects of hostile air action are cover, concealment, dispersion, deception, and mobility (Navy/USMC).

Anti-Ballistic Missile (ABM) The term used for Ballistic Missile Defense (BMD) weapons developed to negate the ballistic missile threat in the late 60s and early 70s.

Anti-Ballistic Missile System A system designed to counter strategic ballistic missiles or their elements in flight.

Anti-Radiation Missile (ARM)

A missile that homes passively on a radiation source.

Antisatellite Weapon (ASAT) A weapon designed to destroy satellites in space. The weapon may be launched from the ground, from an aircraft, or be based in space. The target may be destroyed by either a nuclear or conventional explosion, by collision at high speed, or by a directed energy beam.

**Anti-Simulation** 

The process of introducing random variations to the signature characteristics of an object in order to cause misidentification of the object by the sensors. The disguising of an RV to resemble a non-threatening object such as a piece of debris, a balloon, or a decoy.

ΑO

1. See Associated Object. 2. Action Officer. 3. Area of Operations.

AOA

OBSOLETE. See Airborne Optical Adjunct (now called AST).

AOC

Air Operations Center.

AOCC

Air Operations Control Center.

**AOEC** 

Aero-Optic Evaluation Center, Buffalo, NY.

AOI

Active Optical Imager.

AOP

Airborne Optics Platform.

AOR

Area of Responsibility.

AOS

OBSOLETE. Airborne Optical Sensor.

**AOSP** 

Advanced On-Board Signal Processor.

AΡ

Acquisition Plan.

A/P

Active/Passive.

APB

See Acquisition Program Baseline.

APCC

See Alternate Processing and Correlation Center.

API

Ascent-Phase Intercept.

APL

Applied Physics Laboratory, Johns Hopkins University, Baltimore, MD.

APLE

Average Power Laser Experiment.

APM

Advanced Penetration Model.

APMA

Acquisition Program Management Agreement.

APOD

Aerial Point of Debarkation.

**Application** 

1. (Software) It refers to a process, usually implemented as a software routine, at the highest level (Level 7) of the ISO open system architecture. 2. (SDS) It refers to such processes as the Battle Management, Navigation, Network Control, and other high level functions which may originate or receive messages over the SDS Communication network, via underlying lower-level protocols. 3. Software designed to fulfill specific needs of a user. 4. (Acquisition) The process of selecting requirements that are pertinent and cost effective for the particular material acquisition and contractually invoking them at the most advantageous times in the acquisition cycle.

#### **Apportionment**

1. A determination made by the Office of Management and Budget which limits the amount of obligations or expenditures that may be incurred during a specified time period. An apportionment may limit all obligations to be incurred during the specified period or it may limit obligation to be incurred for a specific activity, function, project, object, or a combination thereof. The third of four phases of the DoD resource allocation process. 2. The determination and assignment of the total expected effort by percentage and/or by priority that should be devoted to the various air operations and/or geographic areas for a given period of time. 3. In the general sense, distribution for planning of limited resources among competing requirements. Specific apportionments (e.g. air sorties and forces for planning) are described as apportionment of air sorties and forces for planning, etc.

#### **Appropriation**

An authorization by an act of Congress that permits Federal agencies to incur obligations and make payments from the Treasury. An appropriation usually follows an enactment of authorizing legislation. An appropriation act is the most common means of providing budget authority. Appropriations do not represent cash actually set aside in the Treasury; they represent limitations of amounts which agencies may obligate during a specified time period. See Authorization.

Approved Program The technical and operational, schedule, and quantity requirements reflected in the latest approved USD(A) ADM, or other document reflecting a more current decision of the USD(A) or other approval authority, such as the President's Budget, the FYDP, and supporting documentation.

APS

1. Axial Propulsion System. 2. Automatic Phasing System.

APU

Auxiliary Power Unit.

APT

Acquisition, Pointing, and Tracking.

**ARCCC** 

See Army Component Command Center.

ARFOR

Army Forces.

ARGUS

Advanced Real-time Gaming Universal Simulation.

Architectural Design

The process of defining a collection of hardware and software components and their interfaces to establish the framework for the development of a computer system.

Architecture Integration Study (AIS) A study to determine the performance of alternative architectures and element designs that satisfy BMD System mission requirements, and to evaluate the effect of changing threats and advances in technology on the systems, subsystems, and components making up existing and proposed architectures.

**ARDSOC** 

Army Defense System Operations Center.

ARE

Aerothermal Reentry Experiment.

Area Air Defense Commander (AADC) The person given overall responsibility for air defense within an overseas unified command, subordinate unified command, or a joint task force. Normally, this will be the Air Force component commander.

Area Defense

Defense of a broad geographical area that contains both military and civilian assets (i.e., depots, towns/cities). (USSPACECOM)

Area of Influence

A geographical area wherein a commander is directly capable of influencing operations by maneuver or fire support systems normally under his command or control.

Area of Interest (AOI)

The area of influence and surrounding areas that are of concern to the commander for the objective of current and planned operations. This may include areas occupied by enemy forces.

Area of Operations That portion of an area of war necessary for military operations and for the administration of such operations.

ARH

Anti-Radiation Homing.

ARM

See Anti-Radiation Missile.

Arms Export Control Board (AECB) An interagency board, chaired by the Under Secretary of State for Security Assistance, Science, and Technology, that serves to advise the Secretary of State on matters relating to security assistance program levels and arms transfer policies.

Army Brigade Center (ARBC) The Army center between the ARSPOC and the ARROC with C2 responsibilities for BMD. •

Army Component Command Center (ARCCC)

A segment of the Command and Control Element which replicates capabilities of the CCC (BMD) segment and provides administrative and logistics support to Army Component Forces with the Strategic Defense System. The ARCCC was eliminated from the CCE (now  $C^2E$ ) architecture during the last SAS system architecture definition update.

Army Materiel Command (AMC)

Performs the assigned materiel functions of the Department of the Army, including research and development; product improvement; human factors engineering; test and evaluation; procurement and production; new equipment training; scientific and technical intelligence production; international logistics programs; and storage, distribution, maintenance, demilitarization, and disposal for the continental United States wholesale supply and maintenance systems as well as for overseas systems. Located in Alexandria, VA.

Army Space Operations Center (ARSPOC) The Army Space Command Center responsible for logistically/ administratively controlling assigned SDS elements and which shall also include the capability to assure the BMD mission should the USCINCSPACE CCC be lost.

**AROS** 

Airborne Radar Optical System.

ARPA

Advanced Research Projects Agency. (Formerly known as Defense Advanced Research Projects Agency (DARPA).

ARPANET

ARPA Network.

ARROC

Army Regional Operations Center.

**Arrow** 

A technology demonstration program started in 1988 and designed to meet Israeli architecture requirements for area defense of population centers against TBMs.

ARSPOC

See Army Space Operations Center.

ARU

Alignment Reference Unit (PAC-3).

ASA

Assistant Secretary of the Army.

ASAF

Assistant Secretary of the Air Force.

ASAF (A)

Assistant Secretary of the Air Force (Acquisition).

**ASARC** 

Army Systems Acquisition Review Council.

ASAS

1. All Source Analysis System. 2. Advanced Solid Axial Stage.

**ASAT** 

See Antisatellite Weapon.

ASB

Army Science Board.

ASCC

Air Standardization Coordination Committee.

ASD

1. Aeronautical Systems Division (AF). 2. Assistant Secretary of Defense.

ASDP

Advanced Sensor Demonstration Program.

ASIC

Application Specific Integrated Circuit.

ASM

1. See Anti-Simulation. 2. Antiship Missile. 3. Air-to-Surface Missile.

ASMD

Antiship Missile Defense.

ASN

Assistant Secretary of the Navy.

ASOC

Air Support Operations Center.

ASP

1. Airborne Surveillance Platform. 2. Advanced Sensor Program. 3. Advanced Sensor Platform. 4. Annual Service Practice.

**ASPADOC** 

The backup to the SPADOC, maintained by the Naval Space Command, at Dahlgren, VA, collocated with the NAVSPOC and NAVSPASUR.

**ASPIRIS** 

Advanced Signal Processing for IR Sensors.

ASR

Acquisition Strategy Report.

**ASROC** 

Antisubmarine Rocket.

**Assessment** 

1. Appraisal of the worth of an intelligence activity, source information, or product in terms of its contribution to a specific goal, or the credibility, reliability, pertinence, accuracy, or usefulness of information in terms of an intelligence need. When used in context with evaluation, assessment implies a weighing against resource allocation, expenditure or risk. 2. An independent evaluation of a model or simulation by a BMDO-sponsored Confidence Assessment Team for a specified purpose.

Associated Object

Object that remains near a deployed reentry vehicle, decoy or chaff puff.

Assume Course Orientation

Make course attitude adjustments to the weapon platform orientation prior to engagement.

**Assured Defense** 

Strategies and tactics that result in (specified) a high probability of kill against designated targets, regardless of the interceptors required. (USSPACECOM)

**Assured Kill** 

This option requires defense segments to employ tactics which produce the highest probability of kill consistent with the available number of defensive resources (interceptors).

AST

See Airborne Surveillance Testbed.

**ASWG** 

Architecture Systems Working Group.

ATA

1. Advanced Test Accelerator. 2. Avionics Test Article.

**ATACMS** 

Army Tactical Missile System.

**ATAF** 

Allied Tactical Air Force (NATO).

**ATB** 

1. Allied Test Bed. 2. Analytical Tool Box.

**ATBM** 

Anti-Tactical Ballistic Missile.

ATD

See Advanced Technology Demonstration.

ATDL

Army Tactical Data Link.

ATDM

Adaptive Time Division Multiplexer.

**ATDS** 

Airborne Tactical Data System.

ATE

Automatic Test Equipment.

**ATHS** 

Airborne Target Handover System.

**MTA** 

Anti-Tactical Missile.

**ATO** 

Air Tasking Order.

ATOC

Air Tactical Operations Center.

ATP

1. See Acquisition, Tracking, and Pointing. 2. Authority To Proceed. 3. Allied Tactical Publication. 4. Acceptance Test Procedures.

ATP&FC

Acquisition, Tracking, Pointing, and Fire Control.

ATTD

Advanced Technology Transition Demonstration.

Attack and Launch Early Reporting to Theater (ALERT) An upgrade to ground station mission processing which exploits inherent satellite capability to provide theater missile warning and cueing.

Attack

Assessment (AA)

An evaluation of information to determine the potential or actual nature and objectives of an attack for the purpose of providing information for timely decisions.

Attack Characterization The process by which the parameters of an attack in progress are developed, updated and defined.

## Attack Operations (Counterforce)

1. Attack operations prevent launch of theater missiles by attacking all elements of the overall enemy system, including such actions as destroying launch platforms, support facilities, reconnaissance, intelligence, surveillance and target acquisition platforms, command and control nodes, and missile stocks. Attack operations can be executed by space, air, ground, maritime, and special operations forces. Attack operations are considered one of the four pillars of TMD capability. (JCS J-38 CONOPS)

#### **Attack Price**

A concept used to evaluate the performance of a BMD system that defines "price" as the number of RVs required to ensure target destruction. Target destruction is defined as a probability of target survivability using the drawdown curve.

#### Attack Warning/ Attack Assessment (AW/AA)

Integrated air, missile, and space defense data used to determine whether an attack is underway and, if so, what is the type and strength of the attack.

#### Attenuation

Decrease in intensity of a signal, beam, or wave as a result of absorption and scattering out of the path of a detector by the propagating medium, but not including a decrease in intensity due to geometric spreading (e.g., the inverse square of distance).

#### ATSIM

Acquisition and Track Simulation.

#### ATV

Advanced Technology Validation.

#### Autonomous Acquisition Range (Max.)

The maximum range at which a target can be acquired by a sensor operating in a non-cued mode.

#### ΑV

1. Air Vehicle. 2. Audio-Visual.

#### Average Unit Procurement Cost (AUPC)

Design to average unit procurement cost objectives, expressed in constant dollars, are established for Milestone I, Concept Demonstration Approval. AUPC includes recurring flyaway, rollaway, sailaway costs (including nonrecurring production costs) adjusted for data, training, support equipment, and initial spares costs.

#### AVSCOM

Aviation Systems Command (US Army).

#### AW/AA

See Attack Warning/Attack Assessment.

#### **AWACS**

Airborne Warning and Control System.

#### AWS

AEGIS Weapons System.

#### **Azimuth**

Orientation of a vector projected onto a reference horizontal plane, relative to a reference direction in the plane.

#### **Azimuth Angle**

A positive angle measured clockwise in a reference horizontal plane from a reference direction to a given direction. For a topocentric-horizon coordinate reference frame, the reference direction is due north (true north or magnetic north, depending on the application).

**B** Spec

Development specification.

BA

Budget activity. The budget activity codes are:

01 -- Basic Research

02 -- Exploratory Development

03 -- Advance Technology Development

04 -- Dem/Val 05 -- EMD

06 -- Management Support

07 -- Operational Systems Development

BAA

Broad Agency Announcement.

Backbone Network Consists of the space communications network, the ground communications network, and the interconnection between the two.

Background Rejection (Surveillance) The suppression of background noise for the improvement of an object signal.

**BAFO** 

Best and Final Offer.

BAI

Battlefield Air Interdiction.

Balanced Technology Initiative (BTI) DoD's program to hasten application of advanced technology to the most critical and urgent operational needs. BTI projects are demonstrating leap-ahead capabilities enabled by emerging technologies in smart weapons, target acquisition, battlefield C<sup>3</sup>I, active countermeasures, and ultrawide bandwidth radars and high power microwave systems.

Ballistic Coefficient The weight of the object divided by the product of the coefficient of drag and the projected area (W/CDA), in kilograms per square meter.

Ballistic Missile (BM)

Any missile that does not rely upon aerodynamic surfaces to produce lift and consequently follows a ballistic trajectory when thrust is terminated.

Ballistic Missile Boost Intercept (BAMBI) OBSOLETE. A late 1966 system concept that a Lockheed study group developed in anticipation of possible government interest in the development of an ABM capability.

Ballistic Missile Defense (BMD) All active and passive measures designed to detect, identify, track, and defeat attacking ballistic missiles (and entities), in both strategic and theater tactical roles, during any portion of their flight trajectory (boost, post-boost, midcourse, or terminal) or to nullify or reduce the effectiveness of such attack.

Ballistic Missile Defense Battery An Army operations center which operates and maintains BMD ground-based weapons and sensors.

Ballistic Missile Defense (BMD) Cell This facility will be located in the USSPACECOM Consolidated Command Center (CCC) and Space Control Center (SPACC) to support the Space Force Application mission area interface between the BMD system and USCINCSPACE. The BMD Cell will provide command and decision support to USCINCSPACE.

Ballistic Missile Defense Operations Center (BMDOC) OBSOLETE. Initially located at the NTF, and ultimately in the Cheyenne Mountain Complex, this facility supports the BMD Cell-USSPACECOM information interface. The BMDOC hosts a BM/C<sup>3</sup> processing suite and the operations personnel necessary to coordinate and integrate system-wide BMD activities and supports the USCINCSPACE planning and decision process.

Ballistic Missile Defense Organization (BMDO) An agency of the Department of Defense whose mission is to manage and direct the conduct of a research program examining the feasibility of eliminating the threat posed by ballistic missiles of all ranges and of increasing the contribution of defensive systems to United States and Allied security. BMDO is the successor to Strategic Defense Initiative Organization (SDIO).

Ballistic Missile Defense Program An architecture comprising three objectives: Theater Missile Defense (TMD), National Missile Defense (NMD), and Follow-on Research Programs.

Ballistic Missile Defense (BMD) System The aggregate BMD  $BMC^3$  and BMD forces that, in total, provide defense against ballistic missile attacks to North America and other areas of vital interest. (USSPACECOM)

Ballistic Missile Early Warning System (BMEWS) Provides tactical warning of ballistic missile attacks, and is part of Spacetrack system. A two-faced phased array radar located at Thule AB, Greenland; three detection radars and one tracking radar at Clear AFS, AK; and three tracking radars at RAF Fylingdales, UK.

Ballistics

The science or art that deals with the motion, behavior, appearance, or modification of missiles or other vehicles acted upon by propellants, wind, gravity, temperature, or any other modifying substance, condition, or force.

Ballistic Trajectory The trajectory traced after the propulsive force is terminated and the body is acted upon only by gravity and aerodynamic drag.

Balloon

A spherical inflatable decoy used as a penetration aid to mask the location of reentry vehicles.

Bambi

OBSOLETE. See Ballistic Missile Boost Intercept.

**Bandwidth** 

The range of usable frequencies assigned to a channel or system; the difference expressed in Hertz between the highest and lowest frequencies of a band.

Barrage Jamming Simultaneous electronic jamming over a broad band of frequencies.

Battery

Tactical and administrative artillery unit or subunit corresponding to a company or a similar unit in other branches of the Army.

#### Battle Damage Assessment (BDA)

The estimate of damage resulting from the application of military force against a predetermined objective. Battle damage assessments can be applied to the use of all types of weapons systems throughout the range of military operations. BDAs are primarily an intelligence responsibility with required inputs and coordination from the operators. BDA is composed of physical damage assessment, functional damage assessment, and target system assessment.

#### Battlefield Coordination Element (BCE)

An Army liaison provided by the Army component commander to the Air Operations Center (AOC) and/or to the component designated by the joint force commander to plan, coordinate, and deconflict air operations. The battlefield coordination element processes Army requests for tactical air support, monitors and interprets the land battle situation for the AOC, and provides the necessary interface for exchange of current intelligence and operational data.

#### Baseline

Defined quantity or quality used as starting point for subsequent efforts and progress measurement. Can be a technical baseline or cost baseline.

#### Baseline Comparison System (BCS)

A current operational system, or a composite of current operational subsystems, which most closely represents the design, operational, and support characteristics of the new system under development.

#### Baseline Conditions

The natural and human environmental conditions which are present prior to implementation of a program and against which impacts are assessed.

#### Baseline Cost Estimate (BCE)

A detailed estimate of acquisition and ownership costs normally required for high level decisions. This estimate is performed early in the program and serves as the basepoint for all subsequent tracking and auditing purposes.

#### **Base Program**

The base program is the program described in the Future Years Defense Program base file, when updated to conform to the budget presented to Congress in January. It constitutes the base from which all current-year program changes are considered.

#### Base Year

A reference period which determines a fixed price level for comparison in economic escalation calculations and cost estimates. The price level index for the base year is 1.000.

#### **Battle Debris**

Battle Debris are the fragments produced by the hypervelocity collision of an interceptor with a ballistic missile, post-boost vehicle, or reentry vehicle, objects resulting from intentional fragmentation or accidental detonation of booster components, and objects normally associated with the deployment and propagation of threat objects (such as nuts, bolts, interstages, fairings, shrouds, etc.).

#### **Battle Group**

1. Domains into which the battle space is partitioned. 2. A data processing approach implemented in the battle management computer which minimizes the processing load by partitioning (grouping) threat data (Virtual Battle Group). 3. A group of associated system elements which operate together in a segment of the battle, based upon their capabilities and relative location to each other and the threat.

#### **Battle Integration**

Preplanning processes and/or real-time coordination that occurs to minimize resource wastage between battle tiers or battle partitions.

#### Battle Management (BM)

Battle management is comprised of two parts: (1) strategies and (2) the collection of tasks to be performed to successfully implement chosen strategies. Given a set of strategies, resources, and hostile asset deployment, battle management addresses the problem of choosing a specific strategy or set of strategies and performing the associated tasks which would result in the most desired outcome.

Battle
Management/
Command,
Control,
Communications,
and Computers
(BM/C<sup>4</sup>)

BM/C<sup>4</sup> is a set of automated processes which respond to the  $C^2$  system's control directives. The BM/C<sup>4</sup> will provide the BMD system with the capability of planning, coordinating, directing, and controlling the surveillance and engagement operations of the system. It will consist of a distributed arrangement of personnel, equipment, communications, facilities, and procedures that will ensure timely human control of the battle management process. BM/C<sup>4</sup> consists of a battle planning function, an engagement planning function, and a battle execution function. (USSPACECOM)

#### Battle Management Database

Battle Management data files including: battle management message file, object file, track file, discrimination file, engagement file, kill assessment file, and battle management health and status file.

Battle Management System The hub of the command and control process. It consists of computer hardware and software that integrates elements of the command and control system into a synergistic operation. (USSPACECOM)

Battle Management System Configuration The battle management elements currently in the system together with their locations, connectivity and currently activated modes of operation.

#### **Battle Manager**

The automated set of hardware and software equipment that performs the battle management functions at an element.

#### **Battle Plan**

One of a set of BMD operational approaches to counter a ballistic missile attack. It contains the rules of engagement, battle strategy, and intercept tactics to be implemented by the battle management processors. It is directly responsive to the attack type (e.g., counterforce).

#### Battle Space

A characterization of the BMD area of operation generally expressed by Tier (Boost, Post-Boost, Midcourse, and Terminal). (USSPACECOM)

#### Battle Space Partitioning

Assignment of management, sensing, control and firing responsibilities to specific platforms/facilities within the deployed constellation of platforms/facilities.

BBT

Booster Burn Time.

**BCAS** 

Battle Management and  ${\bf C}^3$  Architecture Simulator.

BCD

Baseline Concept Description.

BCE Battlefield Coordinating Element.

BCM Baseline Correlation Matrix (AF).

BCO See Broad Concept of Operations.

BCP Battery Command Post (HAWK).

BCS 1. Beam Control System. 2. See Baseline Comparison System.

BDA See Battle Damage Assessment.

BDL Battlefield Demonstration Laser.

BDS Boost Phase Detection System.

BDT See Birth-to-Death Tracking.

BE See Brilliant Eyes.

Beam Control Technologies associated with controlling the physical properties of high energy

beams and steering the energy transmitted by those beams to the target vehicle; also, the management of signal or image beams within a complex

sensor system.

Beam Width The angle between the directions, on either side of the axis, at which the

intensity of the radio frequency field drops to one-half the value it has on the

axis.

BEAR Beam Experiment Aboard Rocket (NPB Technology Validation Experiment).

Bell-Lapadula

Model

A formal state transition model of computer security policy that describes a set

of access control rules.

BEP See Brilliant Eyes Probe.

BES Budget Estimate Submission.

BESC BM/C<sup>3</sup> Element Support Center

BET Best Estimate Trajectory.

Biennial Budget The FY86 DoD Authorization Act required the submission of two-year budgets

for the Department of Defense beginning with FY88/89. The department has institutionalized a biennial cycle for the Planning, Programming, and Budget System (PPBS). A biennial budget, as currently structured, represents program budget estimates for a two year period in which fiscal year requirements remain

separate and distinct.

BGM Battle Group Manager.

BGV Boost Glide Vehicle.

BIB

Blocked Impurity Band.

BIC

OBSOLETE. Braduskill Interceptor Concept.

BIM

Ballistic Intercept Missile.

Biological Weapon An item of material which projects, disperses, or disseminates a biological agent including arthropod vectors.

BIPS

Billion Instructions Per Second.

Birth-to-Death
Tracking (BDT)

The tracking of space objects (e.g., satellites, reentry vehicles, or decoys that simulate these) from the time they are deployed from a booster or post-boost vehicle until they are destroyed.

**Bistatic Radar** 

A radar system that has transmitters and receivers stationed at two geographically separate locations; a special case of multistatic radar.

BIT

**Built-in-Test** 

BITE

See Built-in Test Equipment.

**Bit Transfer** 

Rate

The number of bits transferred per unit time, usually expressed in bits per

second (bps).

**Black Body** 

An ideal body which would absorb all (and reflect none) of the radiation falling upon it.

**Blackout** 

The disabling of electronic equipment by means of nuclear explosion. The intense electromagnetic energy by a nuclear explosion obscures signals and renders many types of radar and other types of electronic equipment useless for minutes or longer.

BLADES

BMD Long Wavelength Infrared Advanced Exoatmospheric Sensor.

**Blast Effect** 

Destruction of or damage to structures and personnel by the force of an explosion on or above the surface of the ground. Blast effect may be contrasted with the cratering and ground-shock effects of a projectile or charge that goes off beneath the surface.

**Blast Wave** 

A sharply defined wave of increased pressure rapidly propagated through a surrounding medium from a center of detonation or similar disturbance.

BLCCE

BMDO Life Cycle Cost Estimate.

BLK

Block (system production lot)

**BIK IVA** 

Navy Standard Missile Block IV-A.

Block

(Communication) This term is used to designate a portion of a multi-message packet which is dedicated to a message contained within the packet.

Block Check Character (BCC) The result of a transmission verification algorithm accumulated over a transmission block, and normally appended at the end, e.g., CRC, LRC.

**Blue Forces** 

Those forces used in a friendly role during exercises.

BM

1. See Battle Management. 2. See Ballistic Missile.

BM/C3

See Battle Management/Command, Control, and Communications. See also

CC/SOIF.

BM/C3I

Battle Management/Command, Control, Communications, and Intelligence.

BM/C3 WG

BM/C3 Working Group.

BM/C4I

Battle Management/ Command, Control, Communications, Computers, and

Intelligence.

BMD

See Ballistic Missile Defense.

BMDAC

Ballistic Missile Defense Advisory Committee.

**BMDAE** 

Ballistic Missile Defense Acquisition Executive.

**BMDARC** 

Ballistic Missile Defense Acquisition Review Council.

**BMDATC** 

OBSOLETE. Ballistic Missile Defense Advanced Technology Center, Huntsville,

AL.

**BMDCC** 

Ballistic Missile Defense Command/Control Center.

BMD Element Program Manager (PM) A highly qualified individual responsible for day-to-day management and execution of a BMD element program consistent with PM authorities and responsibilities documented in DoDD 5000.1 and DoDI 5000.2.

BMD Event Assessment An evaluation of information that determines the potential or actual nature and objectives of an attack for the purpose of providing information for timely decisions. Event assessment for ballistic missile attack begins on receipt of event assessment information and continues throughout the attack. The objective of event assessment is to determine the origin of the attack, the country and/or theater under attack, the number and type of missiles/RVs involved in the attack, and what specific targets (impact points) are under attack. This determination may be made based on attack assessment quality launch and impact messages from external systems, information generated by BMD sensors, or any combination.

### BMD Event Validation

The human evaluation of whether an observed event is real or false. It is a statement of validity of a warning event determined by a human analysis of equipment, operational environment, and personnel actions. The basis for this judgment is dependent on both of the following: first, in the judgment of sensor site personnel reporting the event, the data exhibits characteristics consistent with pre-determined phenomena attributed to an actual event. Site personnel actions, and hardware and software performance, are determined to be within established system operation specifications. This is a valid site report. Second, when a site report is received at the BMD operations center, it undergoes system report analysis. This process may change the valid site report based on additional factors such as other site reports, intelligence information, and other data. Only after this process has been completed can a determination be made of event validation.

**BMDN** 

Ballistic Missile Defense Network.

BMDO

See Ballistic Missile Defense Organization.

**BMDOC** 

OBSOLETE. See Ballistic Missile Defense Operations Center.

BMDSCOM

OBSOLETE. Ballistic Missile Defense Systems Command (now USASSDC).

**BMEWS** 

See Ballistic Missile Early Warning System.

**BMO** 

OBSOLETE. Ballistic Missile Office (AF).

BMT

Ballistic Missile Threat.

BN

Battalion

**Booster** 

An auxiliary or initial propulsion system that travels with a missile or aircraft and that may or may not separate from the parent craft when its impulse has been delivered. A booster system may contain or consist of one or more units.

**Booster Inventory** 

Total force inventory.

**Boost Phase** 

That portion of the flight of a ballistic missile or space vehicle during which the booster and sustainer engines operate.

Boost Segment Defense The first phase of a ballistic missile trajectory during which it is being powered by its engines. During this phase, which usually lasts 3 to 5 minutes for an ICBM, the missile reaches an altitude of about 200 km whereupon powered flight ends and the missile begins to dispense its reentry vehicles. The other phases of missile flight, including midcourse and terminal, take up to the remainder of an ICBM's flight time of 25 to 30 minutes. (USSPACECOM)

Boost Surveillance and Tracking System (BSTS) OBSOLETE. An Air Force sensor system in high earth orbit used for early warning, tracking of ballistic missiles, and attack assessment.

BORRG

Ballistic Missile Operational Requirements Review Group.

BOSS

Background Optical Suppression Sensor.

Bottom-Up Review (BUR) A comprehensive review, initiated in March 1993, of the nation's defense strategy, force structure, modernization, infrastructure, and foundations. The BUR examined U.S. missile defense requirements from a perspective of identifying options that could meet future needs at an affordable cost.

BP

1. See Brilliant Pebbles 2. See Boost Phase. 3. Battle Planning.

**BPBM** 

Boost Phase Battle Management.

**BPHIT** 

Brilliant Pebbles Hover Interceptor Test.

BPI

1. Boost Phase Intercept. 2. Boost Phase Interceptor.

BPL

Boost Phase Leakage.

**BPTF** 

Brilliant Pebbles Task Force.

**BPTS** 

Boost Phase Tracking System.

BRAC

Base Realignment And Closure.

Brassboard Configuration

An experimental device (or group of devices) used to determine feasibility and to develop technical and operational data. It will normally be a model sufficiently hardened for use outside of laboratory environments to demonstrate the technical and operational principles of immediate interest. It may resemble the end item, but is not intended for use as the end item.

Breadboard Configuration

An experimental device (or group of devices) used to determine feasibility and to develop technical data. It will normally be configured for laboratory use to demonstrate the technical principles of immediate interest. It may not resemble the end item and is not intended for use as the projected end item.

**Breakout** 

Execution of acquisition strategy to convert some parts or systems components from contractor furnished to government furnished. Rather than having prime contractor provide from its sources, government goes out to industry directly and procures items.

Break-Up

1. In detection by radar, the separation of one solid return into a number of individual returns which correspond to the various objects or structure groupings. This separation is contingent upon a number of factors, including range, beam width, gain setting, object size, and distance between objects. 2. In imagery interpretation, the result of magnification or enlargement which causes the imaged item to lose its identity and the resultant presentation to become a random series of tonal impressions.

**Brightness** 

The amount of power that can be delivered per unit solid angle by a directed energy weapon. As used in the BMD program, brightness is the measure of source intensity. To determine the amount of energy per unit area on a target, both source brightness and source-target separation distance must be specified.

Brilliant Eyes (BE)

Successor to Space-Based Surveillance and Tracking System (SSTS). BE is also known as the Space and Missile Tracking System (SMTS), and is now the LEO element of the SBIRS. See SBIRS.

#### Brilliant Eyes Probe (BEP)

The BE Probe is a concept for a ground launched probe version of the BE space-based satellite, analogous to the obsolete GSTS, that would leverage heavily the applicable BE Flight Demonstration System (FDS) developed equipment. BEP could be developed and deployed on a shorter schedule and could provide interim above-the-(radar) horizon threat tracking and precommit for the interceptor. The concept requires the addition of non-FDS LWIR sensor to a sub-set of the existing sensor complement, and is part of potential Contingency Deployment Options. Also called the Ground Launched Probe (GLP).

## Brilliant Pebbles (BP)

OBSOLETE. Proliferated singlet space-based weapon with autonomous capability. (Now a subset of the Air Force's Advanced Interceptor Technologies (AIT) project.)

#### Broad Concept of Operations (BCO)

An approved USSPACECOM planning concept for a complete SDS. It is a toplevel concept that is detailed in specific Phase Concepts of Operations.

BRV

Ballistic Reentry Vehicle.

BS

1. Battle Staff. 2. Broadcast Source.

**BSTS** 

See Boost Surveillance and Tracking System.

BTI

See Balanced Technology Initiative.

BTOC

Battalion Tactical Operations Center (PATRIOT).

**BTRY** 

Battery.

**BTTV** 

Ballistic Tactical Target Vehicle.

#### **Budget Activity**

1. A budget activity is a major subdivision of a budget appropriation, generally in mission areas. It records estimates for a component function or activity to be funded by the appropriation. 2. Categories within each appropriation and fund account that identify the purposes, projects, or types of activities financed by the appropriation or fund.

#### **Budget Authority**

Authority provided by law to enter into obligations which generally result in immediate or future disbursements of Government funds. It may be classified by the period of availability, by the timing of congressional action or by the manner of determining the amount available. Also known as obligational authority.

#### **Budget Estimate**

Cost estimate prepared for inclusion in the DoD budget to support an acquisition program.

Budget Estimate Submit (BES) The service submissions to OSD showing budget requirements for inclusion in the DoD budget. Every other autumn (even years) for two-year budget, every autumn of odd years for amendment to second year of previously submitted two year budget.

Built-in Test Equipment (BITE) Any device permanently mounted in the prime equipment and used for the express purpose of testing the prime equipment, either independently or in association with external test equipment.

**Bulk Filter** 

The signal processing rejection of detected signals as not being related to objects of interest. The removal of sensor observations from the track files that can be readily assessed by location or signature as non-threat (e.g., stars, boost fragments, etc.).

**BUR** 

See Bottom-Up Review.

Burden

Costs which cannot be attributed or assigned to a system as a direct cost. Alternative term for overhead.

Burnout

The point in time or in the missile trajectory when combustion of fuels in the rocket engine is terminated by other than programmed cutoff.

**Burn Rate** 

The monthly rate at which a contractor's funds are expended during the period of the contract.

Burn-Through Range

The distance at which a specific radar can discern targets through the external interference being received.

Bus

The platform (or "bus"), sometimes referred to as a post-boost vehicle, on a single missile which carries all the warheads on that missile. May also carry penetration aids, decoys, etc.

Bus Deployment Phase That portion of a missile flight during which multiple warheads are deployed on different paths to different targets (also referred to as the post-boost phase). The warheads on a single missile are carried on a platform or "bus" (also referred to as a post-boost vehicle), which has small rocket motors to move the bus slightly from its original path.

ΒV

Boost Vehicle.

**BVR** 

Beyond Visual Range.

BW

1. See Biological Weapon. 2. Biological Warfare.

ΒY

Budget Year; Base Year.

C2 See Command and Control.

C2E See Command and Control Element.

C2P Command and Control Processor.

C2S Command and Control System.

C2Sims Command and Control Simulations.

C3 Command, Control, and Communications.

C3CM See Command, Control, and Communications Countermeasures.

C3| See Command, Control, Communications, and Intelligence.

C3||T C3| Integration Test.

C3TED C3 Theater Exploitation Demonstration.

C4 Command, Control, Communications, and Computer Systems.

C41 Command, Control, Communications, Computers, and Intelligence.

C4S Command, Control, Communication, and Computer Systems.

C Spec Product specification.

CA Counter Air.

CAD Computer-Aided Design.

CADE Combined Allied Defense Experiment/Effort.

CAE

1. Computer-Aided Engineering. 2. Component Acquisition Executive.

CAIG Cost Analysis Improvement Group.

CALM Characterization of Advanced LWIR Mosaic

CALS 1. Computer-aided acquisition logistic support. 2. Continuous acquisition and

life-cycle support.

CAM Computer-aided manufacturing.

Campaign Plan A plan for a series of related military operations aimed to accomplish a common

objective, normally within a given time and space.

C&DH Communications and Data Handling.

Candidate Sensors Any of the following sensors that could potentially be included in a National Missile Defense deployment: UEWR (BMEWS, PAVE PAWS), HAVE STARE, COBRA DANE, Haystack/Millstone, Haystack Aux, COBRA JUDY, and potentially other existing sensors.

CAO

Counter Air Operation.

CAP

- 1. Combat Air Patrol. 2. Civil Air Patrol. 3. Crisis Action Planning.
- 4. Configuration and Alarm Panel.

**Capital Satellite** 

A highly valued or costly satellite, as distinct from an inexpensive decoy satellite. Some decoys might be so expensive as to be considered capital satellites.

Capstone Test and Evaluation Master Plan (Capstone TEMP) A Test and Evaluation Master Plan which addresses the testing and evaluation of a defense system comprised of a collection of "stand alone" component systems which function collectively to achieve the objectives of the defense system.

CAR

1. Command Assessment Review (AF). 2. Configuration Audit Review.

**CARD** 

See Cost Analysis Requirements Document.

CARM

Counter Anti-Radiation Missile (PATRIOT).

**Carrier System** 

A means of obtaining a number of channels over a single path by modulating each channel upon a different "carrier" frequency, and demodulating at the receiving point to restore the signals to their original form.

Carrier Vehicle (CV)

A space platform whose principal function is to house the space-based interceptors in a protective environment prior to use.

CAS

Close Air Support.

CASE

1. See Common Automated System Execution. 2. Computer-Aided Software Engineering

CAT

1. Computer Aided Testing. 2. Crisis Action Team. 3. Category.

**Cat House** 

A second-generation Soviet phased array radar that augments Moscow's existing search and target acquisition radars (Dog House). It also enhances their battle management capabilities.

CATO

- 1. Combined Arms Tactical Operations (US Army).
- 2. OBSOLETE. Common Automated Tactical Operations.

C-B

Chemical-Biological.

CB

Chemical Biological.

CBD

1. Commerce Business Daily. 2. CINC BM/C<sup>3</sup> Demonstrator.

CBM Central Battle Management.

CBR 1. Chemical, Biological, Radiological. 2. Concurrent Budget Resolution.

CBU 1. Cluster Bomb Unit. 2. Conference Bridge Unit.

CC See Command Center.

CCA 1. Contingency Capabilities Assessment. 2. Carrier-Controlled Approach.

3. Circuit Card Assembly.

CCB 1. Community Counterterrorism Board. 2. Configuration Control Board.

CCC (BMD) See Consolidated Command Center (CCC) (BMD).

CCD 1. Charge-Coupled Device. 2. Camouflage, Concealment, and Deception.

CCE OBSOLETE. Command Center Element. Now called Command and Control

Element (C<sup>2</sup>E).

CCL Commodity Control List.

CCM See Counter-Countermeasures.

CCMPS Counter-Countermeasure Parametric Study.

CCN 1. Contract Change Notice. 2. Configuration Change Notice.

CCS Combat Control System (AEGIS).

CC/SOIF OBSOLETE. Command Center/System Operation and Integration Functions.

(See C<sup>2</sup>E and SOIF.)

CD 1. Concept Definition. 2. Contingency Deployment.

CDD Concept and Development Definition.

CDI 1. Conventional Defense Initiative. 2. Compressed Data Interface.

3. Classification, Discrimination, and Identification (PATRIOT).

CDO Contingency Deployment Option.

CDP Contingency Deployment Planning.

CDR See Critical Design Review.

CDRL See Contract Data Requirements List.

CDS Congressional Descriptive Summary.

CDSSI Common Data Sharing System Infrastructure.

CDV

Concept Definition Vehicle.

CE

Concurrent Engineering.
 Communications Enhancements (PATRIOT).
 Corps of Engineers/Civil Engineers.
 Current Estimate.
 Communications-Electronics.
 Command Element.

Cease Engagement In air defense, a fire control order used to direct units to stop the firing sequence against a designated target. Guided missiles already in flight will continue to intercept.

Cease Fire

A command given to refrain from firing on, but to continue to track objects. Missiles already in flight will be permitted to continue to intercept.

CEATM

Cost Effectiveness At The Margin.

CEC

Cooperative Engagement Capability.

CECOM

U.S. Army Communications Electronics Command, Ft. Monmouth, NJ.

CE/D

Concept Exploration/Definition Phase.

CED

Concept Exploration and Development.

**CELV** 

Complementary Expendable Launch Vehicle.

CEM

Combined Effects Munition.

Centralized Command Operational concept which specifies that critical  $C^2$  is collected and key  $C^2$  decisions are performed at a central location by USCINCSPACE, or his designee, to ensure continuous and positive human control over the system.

Centralized Control The control mode whereby a higher echelon makes direct target assignments to fire units. (USSPACECOM)

Centralized Management The concept of using a single, designated management authority. It includes system management, program/project management, and product management.

CEOI

Communications Electronics Operating Instructions.

CEP

1. See Circular Error Probable. 2. Consolidated Evaluation Process.

CERES

Center for Research Support, NTF, Falcon AFB, CO.

Certification

The technical evaluation of a system's security features, made as a part of and in support of the approval/accreditation process, that established the extent to which a particular computer system's design and implementation meet a set of specified security requirements.

CEU

Cooling Equipment Unit.

CEWG

Civil Engineering Working Group.

**CFC** 

Combined Forces Command, Korea.

CFE

1. Conventional Forces Europe. 2. Contractor Furnished Equipment.

**CFSR** 

Contractor Funds Status Report.

CG

- 1. USN guided missile cruiser. 2. Coast guard. 3. Chairman's Guidance (JCS).
- 4. Commanding General. 5. Center of Gravity. 6. Comptroller General.

Chaff

1. Radar confusion reflectors, which consist of thin, narrow metallic strips of various lengths and frequency responses, used to create false echoes for confusion purposes. 2. Confetti-like metal foil ribbons which can be ejected from spacecraft (or terrestrial vehicles) to reflect enemy radar signals, thereby creating false targets or screening actual targets from the "view" of radar.

**Chaff Puff** 

Volume of space containing a relatively high density of chaff.

Chairman's Program Assessment (CPA) Summarizes the views of the Chairman, Joint Chiefs of Staff, on the balance and capabilities of the Program Objective Memorandum (POM) force and the support levels to attain national security levels. The CPA assists the Secretary of Defense in decisions on the FYDP subsequent to receipt of the POMs.

**Change Order** 

Unilateral written order to a contractor to modify a contractual requirement within the scope of the contract, pursuant to the changes clause contained in the contract.

Change of Operational Control (CHOP) The date and time at which the responsibility for operational control of a force or unit passes from one operational control authority to another.

Checkpoint i

Event or point in time during the program before which decision criteria must be met. If decision criteria are not met, BMDO may decide that the program may not proceed through the checkpoint. A checkpoint may correspond to an event such as a program review, test event, or contract award; it may also correspond to a point in time, e.g. six months after contract award.

**Chemical Agent** 

A chemical substance which is intended for use in military operations to kill, seriously injure, or incapacitate personnel through its physiological effects. Excluded from consideration are riot control agents, herbicides, smoke, and flame. See also Biological Agent.

**Chemical Laser** 

A laser in which chemical action is used to produce the laser energy.

Cheyenne Mountain Air Force Base (CMAFB) CMAFB provides the primary facilities for the command, operations, and processing centers which support the correlation and assessment functions of the ITW/AA system.

CHOP

1. Countermeasures Hands-On Program. Also known as the BMDO Countermeasures Skunkworks. 2. See Change of Operational Control.

CI

1. Counterintelligence. 2. See Configuration Item.

CIC

1. NORAD/USSPACECOM Combined Intelligence Center. 2. Combat Information Center. (U.S. Navy). 3. Content Indicator Code. 4.

Communications Interface Controller.

CIF

CINC Initiative Fund.

CIL

Critical Items List.

CIM

Computer-Integrated Manufacturing.

CINC

Commander-in-Chief.

**CINC Decision** 

Set

A group of decisions available to USCINCSPACE to control his forces, including determining operational state, DEFCON, hostile intent, authorizing engagement, selecting preplanned response options, withholding weapons, overriding system

directives, and terminating engagement.

CIOTE

Commander's Integrated Open System Technology Evaluator.

Cipher System

A cryptographic system in which cryptography is applied to plain text elements of equal length.

Ciphertext

Unintelligible text or signals produced through the use of cipher systems.

Circular Error Probable (CEP)

An indicator of the delivery accuracy of a weapon system, used as a factor in determining probable damage to a target. It is the radius of a circle within which half of a missile's projectiles are expected to fall or there is a 50% probability that a single projectile shall impact.

CIRRIS

Cryogenic Infrared Radiance Instrumentation for Shuttle.

CIS

1. Commonwealth of Independent States. 2. Common Item Support.

3. Communications Interface Shelter.

CITIS

Contractor Integrated Technical Information Service.

CIWS

Close-In Weapon System.

**CJTF** 

1. Commander, Joint Task Force. 2. Combined Joint Task Force.

CL

Chemical Laser.

CLEMENTINE

A flight program to demonstrate lightweight spacecraft technologies.

**CLGP** 

Cannon-Launched Guided Projectile.

Closely Spaced Objects (CSO) Entire or partial object clusters that cannot be resolved to individual objects due to their close proximity and/or exceeding the sensor resolution capability due to the range or the lack of suitable sensor viewing angles.

Closure

In transportation, the process of a unit arriving at a specified location. It begins with the arrival of the first element at a designated location and ends with the arrival of the last.

Clutter

Permanent echoes, cloud, or other atmospheric echo on radar scope.

CLS

1. Command and Launch Station. 2. Contractor Logistic Support.

Clump

Two or more objects that give rise to a single observation, e.g., an extended object consisting of at least two unresolved closely spaced objects.

Cluster

1. A total collection of objects each of which is within some metric distance of at least one other object in the collection. 2. A total collection of objects each of whose image on the focal plane of a sensor is within some metric distance of the image of at least one other object in the collection. 3. A set of objects with similar state vectors (based on truth). For example, a reentry vehicle and its penaids deployed at virtually the same time from a post-boost vehicle. 4. For BM/C<sup>3</sup> purposes, a cluster is a group of objects any one of which can be engaged by an interceptor launched at the centroid of the cluster, possibly before the cluster is resolved into separate objects.

**Cluster Dispersion** 

The rate of expansion of a cluster in meters/sec or angle/sec.

**Cluster Set** 

A group of object clusters and debris that originated from a single missile.

CM

1. See Countermeasures. 2. See Configuration Management. 3. Cruise Missile.

4. Chairman's Memorandum. 5. Control Modem

**CMAFB** 

See Cheyenne Mountain Air Force Base.

**CMAS** 

Cheyenne Mountain Air Station (replaces CMAFB).

CMC

1. Cheyenne Mountain Complex. 2. Commandant of the Marine Corps.

CMD

1. Cruise Missile Defense. 2. Command.

**CMEST** 

Cruise Missile Engagement Systems Technology.

CMF

1. Common Mode Failure. 2. Conjugate Matched Filter.

CMI

Countermeasure Integration.

CM(N)CC

Cheyenne Mountain National Command Center.

**CMOP** 

Counter Missile Operations Plan.

**CMOS** 

Complementary Metal Oxide Semiconductor.

CMP

1. Configuration Management Plan. 2. Counter Military Potential.

3. Communications Message Processor.

**CMTSS** 

Cheyenne Mountain Training and Simulation Support.

CNA

Center for Naval Analyses.

CNAD

Council of NATO Armaments Directors.

CNC

Computer Numerical Control.

CNO

Chief of Naval Operations.

CNWDI

Critical Nuclear Weapons Design Information.

CO

1. Contracting Officer. 2. Change Order. 3. Commanding Officer.

COA

See Course of Action.

Cobra Ball

Modified EC--130 OAMP aircraft (see Cobra Eye).

Cobra Dane

L-Band phased array radar at Shemya AFB, AK.

Cobra Eye

Modified EC-135, IR/EO sensors, Shemya AFB, AK.

Cobra Judy

Shipborne phased array radar.

COC

Combat Operations Center.

COCOM

See Combatant Command.

**Code Template** 

A software tool used to develop a module for multiple general applications.

COEA

See Cost and Operational Effectiveness Analysis.

Coherence

The matching, in space (transverse coherence) or time (temporal coherence), of the wave structure of different parallel rays of a single frequency of electromagnetic radiation. This results in the mutual reinforcing of the energy of a larger beam. Lasers and radar systems produce partially coherent radiation.

COI

1. Critical Operational Issues. 2. Combat Operations Intelligence.

Collocation

The physical placement of two or more detachments, units, organizations, or facilities at a specifically defined location.

COM

1. Collections Operations Management. 2. Commander.

COMAFFOR

Commander, Air Force Forces.

COMAFSPACE

Commander, Air Force Space Command.

COMARFOR

Commander, Army Forces.

COMARSPACE

Commander, Army Space Command.

Combat Area

A restricted area (air, land, or sea) that is established to prevent or minimize mutual interference between friendly forces engaged in combat operations.

See also Combat Zone.

#### Combat Assessment (CA)

The determination of the overall effectiveness of force employment during military operations. Combat assessment is composed of three major components: a) battle damage assessment, b) munitions effects assessment, and c) reattack recommendation. The objective of combat assessment is to recommend the course of military operations. The J-3 is normally the single point of contact for combat assessment at the joint force level, assisted by the joint force J-2.

#### Combat Information Center

The agency in a ship or aircraft manned and equipped to collect, display, evaluate, and disseminate tactical information for the use of the embarked flag officer, commanding officer, and certain control agencies. Certain control, assistance, and coordination functions may be delegated by command to the combat information center. Also called Action Information Center.

#### **Combat Readiness**

Synonymous with operational readiness, with respect to missions or functions performed in combat.

#### **Combat Ready**

Synonymous with operationally ready, with respect to missions or functions performed in combat.

#### Combat Service Support

The essential logistic functions, activities, and tasks necessary to sustain all elements of an operating force in an area of operations. Combat service support includes administrative services, chaplain services, civil affairs, finance, legal services, laundry, etc.

#### **Combat Support**

Fire support and operational assistance provided to combat elements. Combat support includes artillery, air defense artillery, engineer, military police, signal, and military intelligence support.

#### Combat System Test Installation

A collection of subsystems including weapon, sensor, and information processing equipment together with their interfaces installed for the purposes of early testing prior to the availability of a first production item, at a test facility designed to simulate the essential parts of the production item.

#### Combatant Command (COCOM)

Non-transferable command authority established by title 10, United States Code, section 164, exercised only by commanders of unified or specified combatant commands. Combatant Command (command authority) is the authority of a Combatant Commander to perform those functions of command over assigned forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction over all aspects of military operations, joint training, and logistics necessary to accomplish the missions assigned to the command. Combatant Command (command authority) should be exercised through the commanders of subordinate organizations; normally this authority is exercised through the Service component commander. Combatant Command (command authority) provides authority to organize and employ commands and forces as the CINC considers necessary to accomplish assigned missions. Also called COCOM. See also Combatant Commander.

#### Combatant Commander

A commander-in-chief of one of the unified or specified combatant commands established by the President.

Combined Doctrine

Fundamental principals that guide the employment of forces for two or more nations in coordinated actions toward a common objective. It is ratified by participating nations.

**Combined Force** 

A military force composed of elements of two or more allied nations.

Combined Operation An operation conducted by forces of two or more allied nations acting together to accomplish a single mission.

COMINT

See Communications Intelligence.

COMM

Communications.

Command .

For command-oriented functions, the authorization required to perform command operations.

Command and Control (C<sup>2</sup>)

The exercise of authority and direction by properly designated commanders over assigned forces to accomplish the mission. Command and control functions are performed through a hierarchical arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission.

Command and Control Element (C<sup>2</sup>E)

Distributed informed system consisting of processors, software, man-machine interfaces, and communications media that provides USCINCSPACE with the capability to plan, command, and control BMD operations.

Command and Control System

The facilities, equipment, communications, procedures, and personnel essential to a commander for planning, directing, and controlling operations of assigned forces pursuant to the missions assigned.

Command Center (CC)

A facility from which a commander and his representatives direct operations and control forces. It is organized to gather, process, analyze, display, and disseminate planning and operational data and perform other related tasks.

Command, Control, and Communications Countermeasures (C<sup>3</sup>CM) Counter C<sup>3</sup> - That division of C<sup>3</sup>CM comprising measures taken to deny adversary commanders and other decision makers the ability to command and control their forces effectively.
 C<sup>3</sup> Protection - That division of C<sup>3</sup>CM comprising measures taken to maintain the effectiveness of friendly C<sup>3</sup> despite adversary counter - C<sup>3</sup> actions.

Command, Control, Communications, and Intelligence (C<sup>3</sup>I) 1. Procedures and technologies supporting command and control, communications, and intelligence requirements, including those interfaces affecting systems external to the Strategic Defense System. 2. One of the four pillars of TMD capability. Coordination of other pillars and integration of the entire TMD system into overall combat operations.

Command,
Control,
Communications,
and Computer
Systems
(C<sup>4</sup> Systems)

Integrated systems of doctrine, procedures, organizational structures, personnel, equipment, facilities, and communications designed to support a commander's exercise of command and control, through all phases of the operational continuum.

### Command Destruct Signal

A signal used to intentionally activate the destruction system in a missile.

Commander-in-Chief United States Space Command (USCINCSPACE) The unified commander of USSPACECOM responsible for Ballistic Missile Defense and other assigned missions e.g., Space Control, Space Support, and Space Defense.

#### Command Guidance

A guidance system wherein intelligence transmitted to the missile from an outside source causes the missile to traverse a directed flight path.

#### **Command Net**

A communications network which connects an echelon of command with some or all of its subordinate echelons for the purpose of command control.

### Command Verification

The verification of commands from the Battle Manager or Operational Commander prior to execution to confirm the command was correctly received and properly issued.

### Command Post Exercise (CPX)

An exercise in which the forces are simulated, involving the commander, his staff, and communications within and between headquarters.

#### COMMARFOR

Commander, Marine Forces.

#### Commit

The process of committing one or more interceptor vehicles against a target track.

#### Commitment

A firm administrative reservation of funds for future obligations by the local comptrollers. Based upon firm procurement directives, orders, requisitions, authorizations to issue travel orders, or requests.

#### Common Automated System Execution (CASE)

An Army segment of the Command and Control Element responsible for the SDS functions which task the associated sensors and weapons (e.g., WTA) and process the information resulting from those taskings (e.g., perform multisensor track function). Expected to consist of survivable computer hardware and software.

# Common Integration and Tacts Execution (CITE)

An Air Force segment of the Command and Control Element that performs multi-sensor data correlation and tactics execution for space based elements. Expected to consist of survivable computer hardware and software.

#### Common Mode Failure

A type of system failure in which diverse components are disabled by the same single cause.

### Communication Control Character

A functional character intended to control or facilitate transmission over data networks. There are 10 control characters specified in ASCII which form the basis for character-oriented communications control procedures.

### Communications Data Base

Communications data files and updates including, but not limited to, communications message file, network management file, information management file, link quality file, synchronization file, security file and communications health and status file.

## Communications Intelligence (COMINT)

Technical and intelligence information derived from foreign communications by other than intended recipients.

## Communications. Security (COMSEC)

The protection resulting from all measures designed to deny unauthorized persons information of value which might be derived from the possession and study of telecommunications, or to mislead unauthorized persons in their interpretation of the results of such possession and study. Communications security includes (1) Cryptosecurity; (2) Transmission security; (3) Emission security; and (4) Physical security of communications security materials and information.

#### Communications System Segment (CSS)

The communications front end for all Cheyenne Mountain Air Force Base (CMAFB) missions for non-common user traffic, performing circuit and message switching.

#### Communications System Synchronization

Coordination of timing among communications system elements to permit transmission/reception of messages/data which may be distorted by time delays and Doppler shifts between communications nodes.

### Communications Zone

Rear part of the theater of operations (behind but contiguous to the combat zone) which contains the lines of communications, establishments for supply and evacuation, and other agencies required for the immediate support and maintenance of the field forces.

#### COMNAVFOR

Commander, Naval Forces.

#### COMNAV-SEASYSCOM

Commander, Naval Sea Systems Command.

#### COMNAV-SPACECOM

Commander, Naval Space Command.

#### COMOPTEVFOR

Commander, Operational Test and Evaluation Force (Navy).

## Component Acquisition Executive

A single official within a DoD component who is responsible for all acquisition functions within that Component. This includes Service Acquisition Executives for the Military Departments and Acquisition Executives in other DoD components who have acquisition management responsibilities.

#### Component Command Centers

The Component Command Centers (which will contain Army and Air Force unique capabilities) will be capable of supporting the USSPACECOM Command Center and distributed Operations Centers by functioning as "Hot Backups" to provide for BM/C<sup>3</sup> availability and survivability. The Component Command Centers will be capable of executing real-time control of BMD engagement operations.

#### Component Program

•A major defense acquisition program delegated to the Military Department of Defense Agency for management.

#### **Compton Current**

Electron current generated as a result of Compton processes. (See Compton Effect and Compton Electron.)

#### **Compton Effect**

The scattering of photons (of gamma or x-rays) by the orbital electrons of atoms. In a collision between a (primary) photon and an electron, some of the energy of the photon is transferred to the electron which is generally ejected from the atom. Another (secondary) photon, with less energy, then moves off in a new direction at an angle to the direction of motion of the primary photon. (See Scattering.)

#### Compton Electron

An electron of increased energy ejected from an atom as a result of a Compton interaction with a photon. (See Compton Effect.)

#### Computer Security (COMPUSEC)

The totality of security safeguards needed to provide acceptable level of protection for automatic data processing (ADP) systems and the classified data processed. Includes all hardware/software functions, characteristics, features; operational, accountability, and access control procedures at the computer and remote terminal facilities; and, the management constraints, physical structures, and devices needed to provide an acceptable level of protection for classified information in any state of storage, processing, display or communication within the ADP system.

Computer Software Configuration Item (CSCI) An aggregation of software that satisfies an end use function and is designated by the Government for separate configuration management. CSCIs are selected based on tradeoffs among software function, size, host or target computers, developer, support concept, plans for reuse, criticality, interface considerations, need to be separately documented and controlled, and other factors.

#### COMSEC

See Communications Security.

#### COMSOF

Commander, Special Operations Forces.

#### COMUSE

Commander, U.S. Forces Japan.

#### COMUSK

Commander, U.S. Forces Korea.

## Concept Exploration & Definition

The initial phase (Phase 0) of the system acquisition process, beginning at Mission Need Determination. During this phase, the acquisition strategy is developed, system alternatives are proposed and examined, and the system program requirements document is expanded to support subsequent phases.

## Concept of Operations (CONOPS)

A verbal or graphic statement, in broad outline, of a commander's assumptions or intent in regard to an operation or series of operations. The concept of operations frequently is embodied in campaign plans and operation plans; in the later case, particularly when the plans cover a series of connected operations to be carried out simultaneously or in succession. The concept is designed to give an overall picture of the operation. It is included primarily for additional clarity of purpose.

#### **Concept Plan**

An operation plan in concept format. Also called CONPLAN.

#### Concurrency

Part of an acquisition strategy which combines or overlaps two or more phases of the acquisition process, or combines development T&E with operational T&E.

#### Concurrent Engineering

A systematic approach to the integrated, simultaneous design of products and their related processes, including manufacture and support. This approach is intended to cause developers, from the beginning, to consider all elements of the system life cycle from requirements development through dispersal, including cost, schedule, and performance.

#### CONEX

CONOPS Exerciser.

#### Configuration

A collection of an item's descriptive and governing characteristics, which can be expressed (1) in functional terms (i.e., what performance the item is expected to achieve); and (2) in physical terms (i.e., what the item should look like and consist of when it is built).

#### Configuration Audit

One of the Configuration Management tasks which includes a functional configuration audit (FCA) to validate that the development of a configuration item has been completed satisfactorily and that the configuration item has achieved to specified performance and functional characteristics, and also includes a physical configuration audit (PCA) to verify that the configuration item "As Built" conforms to the technical documentation which defines the configuration item.

#### Configuration Baseline

The configuration documentation formally designated by the Government at a specific time during a system's or configuration item's life cycle. Configuration baselines, plus approved changes from those baselines, constitute the current configuration baselines, namely the functional, allocated, and product baselines.

### Configuration Control

One of the Configuration Management tasks that involves the systematic evaluation, coordination, approval, or disapproval of proposed changes to the design and construction of a configuration item whose configuration has been formally approved.

#### Configuration Identification

One of the Configuration Management tasks which requires that, for every change that is made to an Automated Data processing (ADP) system, the design and requirements of the changed version of the system should be identified.

### Configuration Item (CI)

An aggregation of system elements that satisfies an end use function and is designated by the Government for separate configuration management. Configuration items vary widely in complexity, size, and type. Any item required for logistic support and designated for separate procurement is a configuration item. Configuration items are traceable to the work breakdown structure (WBS).

#### Configuration Management (CM)

In computer modeling and simulation, a discipline applying technical and administrative oversight and control to identify and document the functional requirements and capabilities of a model or simulation and its supporting databases, control changes to those capabilities, and document and report the changes. See also Accreditation.

#### CONOPS

See Concept of Operations.

## Consolidated Command Center (CCC)

A single command center from which USCINCSPACE/CINCNORAD can direct all his assigned missions, to include BMD. (USSPACECOM) Located in Colorado Springs, CO.

#### Consolidated Intelligence Watch (CIW)

A consolidation of intelligence watch functions within the Intelligence Operations Center (IOC) consisting of the USSPACECOM ITW Center, the NORAD Aerospace Defense Intelligence Center (ADIC), and the Air Force Space Command Space Intelligence Element (SIE).

## Consolidated Space Operations Center (CSOC)

Series of centers at Falcon AFB, CO which operationally control and maintain assigned DoD satellites.

#### Consolidated Space Test Center (CSTC)

Series of centers at Onizuka AFB, CA (Sunnyvale), which support launch and initial on-orbit checkout of operational satellites, operate R&D satellites, and serves as a backup to CSOC for operational DoD satellites.

### Constellation Size (CSIZE)

The number of satellites of a particular system placed in orbit about the earth.

#### **Contact Fuse**

Device used to detonate warhead on physical contact with another object.

#### Contingency Deployment Plan (CDP)

An executable plan designed to deploy an early missile defense capability and reduce deployment time. The plan provides specific executable deployment options and describes activities required before and after a deployment decision. The plan also allows decision makers to have oversight on technical progress, cost, schedule, and risks associated with a deployment system.

#### Continuity of Command

The degree or state of being continuous in the exercise of the authority vested in an individual of the armed forces for the direction, coordination, and control of military forces.

#### Continuity of Operations

The degree or state of being continuous in the conduct of functions, tasks, or duties necessary to accomplish a military action or mission in carrying out the national military strategy. It includes the functions and duties of the commander, as well as the supporting functions and duties performed by the staff and others acting under the authority and direction of the commander. See Devolution of Command.

## Contract Administration Office (CAO)

The activity identified in the DoD Directory of Contract Administration Services Components assigned to perform contract administration responsibilities. It is a general term and includes Defense Contract Management Regions (DCMRs), Defense Contract Management Area Operations (DCMAOs), and Defense Plant Representative Offices (DPROs). (Defense Systems Management College Glossary)

#### Contract Data Requirements List (CDRL)

Document used to order ("buy") and require delivery of data. Tells contractor what data to deliver, when and how it will be accepted, where to look for instructions, etc.

#### Contract Definition

A funded effort, normally by two or more competing contractors, to establish specifications, to select technical approaches, to identify high-risk areas, and to make cost and production time estimates for developing large weapons systems.

#### Contract Work Breakdown Structure

The complete WBS for a contract, developed and used by a contractor within the guidelines of MIL-STD 881A, and in accordance with the contract statement of work.

### Contracting Officer (CO)

A person with the authority to enter into, administer, or terminate contracts and make related determinations and findings. The term includes any authorized representatives of the CO acting within the limits of their authority. A CO whose primary responsibility is to administer contracts is an Administrative Contracting Officer. One whose primary responsibility is to terminate contracts and/or settle terminated contracts is a Termination Contracting Officer. A single contracting officer may be responsible for duties in any or all of these areas.

#### Control

Authority that may be less than full command exercised by a commander over part of the activities of subordinate or other organizations.

#### Control Abstraction

(Software) The process of extracting the essential characteristics of control by defining abstract mechanisms and their associated characteristics while disregarding low-level details and the entities to be controlled.

#### Control and Reporting Center

An element of the US Air Force tactical air control system, subordinate to the tactical air control center, from which radar control and warning operations are conducted within its area of responsibility.

#### Control and Reporting Post

An element of the US Air Force tactical air control system, subordinate to the control and reporting center, that provides radar control and surveillance within its area of responsibility.

#### **Control Area**

A controlled airspace extending upwards from a specified limit above the Earth.

#### Controlled Environment

Area where entry into the radiation hazard area is controlled.

#### Control Procedure

The means used to control the orderly communication of information between stations on a data link. Also called line discipline. (See Protocol.)

#### **Control Station**

The station on a network which supervises the network control procedures such as polling, selecting, and recovery. It also is responsible for establishing order on the line in the event of contention, or any other abnormal situation, arising between any stations on the network.

#### **Control Zone**

The space, expressed in feet or radius, that surrounds equipment that is used to process sensitive defense information and that is under sufficient physical and technical control to preclude an unauthorized entry or compromise.

#### CONUS

Continental United States.

### Conventional Co-

An effort between governments to produce the same end item, or components of the same end item, in concert.

### Conventional Weapon

A weapon that is neither nuclear, biological, nor chemical.

#### Coordinated Engagement Planning/Actions

Necessary coordination among engagement components to ensure maximum effectiveness of the SDS and resources are not wasted on targets already targeted.

#### Coordinating Authority

A commander or individual assigned responsibility for coordinating specific functions of activities involving forces of two or more Services or two or more forces of the same Service. The commander or individual has the authority to require consultation between the agencies involved, but does not have the authority to compel agreement. In the event that essential agreement cannot be reached, the matter shall be referred to the appointing authority.

#### Co-Production

Production of a defense system in two or more countries. Involves the transfer of production technology and complex or sensitive subsystem components from the country of origin to countries producing the system. Recipient may expand production to include subsystems and components.

#### COR

Contracting Officer's Representative. See Contracting Officer.

#### **Corner Reflector**

1. A device, normally consisting of three metallic surfaces or screens perpendicular to one another, designed to act as a radar target or marker. 2. In radar interpretation, an object that, by means of multiple reflections from smooth surfaces, produces a radar return of greater magnitude than might be expected from the physical size of the object.

#### Corps SAM

OBSOLETE. See Medium Extended Air Defense System.

#### Correlation

1. The process of relating observations or tracks from one set of data to observations or tracks from another set of data, i.e., collecting data from different frames or sensors that presumably relate to the same target. 2. In air defense, the determination that an aircraft appearing on a radarscope, on a plotting board, or visual is the same as that on which information is being received form another source. 3. In intelligence usage, the process which associates and combines data on a single entity or subject from independent observations, in order to improve the reliability or credibility or the information.

#### COSMIC

NATO security category.

Cost Analysis Improvement Group (CAIG) An organization within the office of OSD Director, PA&E which advises the DAB on all matters concerning the estimation, review, and presentation of cost analysis of future weapon systems. The CAIG also develops common cost estimating procedures for DoD.

Cost Analysis Requirements Document (CARD) The document describing the technical baseline which is a subset of current system technical data and is used to generate the baseline cost estimate for an SDS element. It includes, but is not limited to, the element description, interfaces, operational concept quantity requirements, manpower requirements, activity rates, schedules, research and development phasing plan, and facilities requirements.

Cost and Operational Effectiveness Analysis (COEA) An analysis of the estimated costs and operational effectiveness of alternative material systems to meet a mission need, and the associated program for acquiring each alternative.

COTR

Contracting Officer's Technical Representative. See Contracting Officer.

COTS

Commercial Off-The-Shelf.

Counterair

A US Air Force term for air operations conducted to attain and maintain a desired degree of air superiority by the destruction or neutralization or enemy forces. Both air offensive and air defensive actions are involved. The former range throughout enemy territory and are generally conducted a the initiative of friendly forces. The latter are conducted near or over friendly territory and are generally reactive to the initiative of the enemy air forces.

Countermeasures (CCM)

Measures taken by the defense to defeat offensive countermeasures.

Counterforce

The employment of strategic air and missile forces in an effort to destroy, or render impotent, selected military capabilities of an enemy force under any of the circumstances by which hostilities may be initiated.

Countermeasure

A design or procedural measure taken against covert or overt attacks.

Countermeasures (CM)

That form of military science that by the employment of devices and/or techniques, has as its objective the impairment of the operational effectiveness of enemy activity.

Countermeasures
Rejection
(Surveillance)

Improvement or rejection of an object signal in the presence of countermeasures.

### Course of Action (COA)

1. Any sequence of acts that an individual or unit may follow. 2. A possible plan open to an individual or command that would accomplish or is related to the accomplishment of his mission. 3. The scheme adopted to accomplish a job or mission. 4. A line of conduct in an engagement. 5. A plan to accomplish a mission. It describes the execution concept for BMD of North America. It will specify the engagement priorities, resource allocation and desired results by Area of Operation (AO). (USSPACECOM) 6. The scheme adopted to accomplish a task or mission. It is a product of the Joint Operation Planning and Execution System concept development phase. The supported commander will include a recommended course of action in the commander's estimate. The recommended course of action will include the concept of operations, evaluation of supportability estimates of supporting organizations, and an integrated time-phased data base of combat, combat support, and combat service support forces and sustainment. Refinement of this data base will be contingent on the time available for course of action development. When approved, the course of action becomes the basis for the development of an operation plan or operation order.

#### Coverage

1. The ground area represented on imagery, photomaps, mosaics, maps, and other geographical presentation systems. 2. Cover or protection, as the coverage of troops by supporting fire. 3. The extent to which intelligence information is available in respect to any specified area of interest. 4. The summation of the geographical areas and volumes of aerospace under surveillance.

### Covert Timing Channel

A covert channel in which one process signals information to another by modulating its own use of system resources in such a way that this manipulation affects the real response time observed by the second process.

CP

Command Post.

**CPA** 

1. Chairman's Program Assessment. 2. Closest Point of Approach.

**CPAF** 

Cost Plus Award Fee.

**CPAM** 

Chief of Naval Operations Program Assessment Memorandum (Navy)

CPB

Charged Particle Beam.

**CPFF** 

Cost Plus Fixed Fee.

**CPIF** 

Cost Plus Incentive Fee.

CPM

1. Critical Path Method. 2. Contractor Performance Measurement.

CPP

Critical Performance Parameter.

CPR

Cost Performance Report.

CPS

Consolidated Program Summary.
 Competitive Prototyping Strategy.
 Current Program Status.

СРХ

See Command Post Exercise.

CRC

Control and Reporting Center.

**CRG** 

Communications Relay Groups (PATRIOT).

Critical Design Review (CDR) A review conducted to determine that the detailed design satisfies the performance and engineering requirements of the development specification; to establish the detailed design compatibility among the item and other items of equipment, facilities, computer programs, and personnel; to assess producibility and risk areas; and to review the preliminary product specifications. Conducted during Phase I, Demonstration and Validation (for prototypes) and Phase II, Engineering and Manufacturing Development.

Critical Information... Specific facts about friendly intentions, capabilities, and activities vitally needed by adversaries for them to plan and act effectively so as to guarantee failure or unacceptable consequences for friendly mission accomplishment.

Critical Intelligence Parameter A threat capability or threshold established by the program, changes to which could critically impact on the effectiveness and survivability of the proposed system.

Critical Issues

Those aspects of a system's capability, either operational, technical, or other, that must be questioned before a system's overall suitability can be known, and which are of primary importance to the decision authority in reaching a decision to allow the system to advance into the next phase of design, development, production, or post-production.

Critical
Operational Issue

A key operational effectiveness or operational suitability issue that must be examined in operational test and evaluation to determine the system's capability to perform its mission. A critical operational issue is normally phrased as a question to be answered in evaluating a system's operational effectiveness and/or operational suitability.

Critical Path Method A technique that aids dependency of other activities and the time required to complete them. Activities, which when delayed have an impact on the total project schedule, are critical and are said to be on the critical path.

Critical Risk

The existence of a vulnerability that could cause exceptionally grave damage to the viability or the operational effectiveness of the SDS.

Critical Security Risk The existence of a security vulnerability that, if exploited by an adversary, could cause exceptionally grave damage to the viability of the BMD or the operational effectiveness of the SDS. Critical risks assume an adversary's capability to cause major system disruption or degradation (e.g., single point failure), destruction of mission-critical components, or usurpation of system functions.

Critical Supporting Technology A technology that program management personnel consider a critical part of the program being described.

**CRLCMP** 

Computer Resources Life-Cycle Management Plan.

**CRO** 

Chemical Release Observation.

**CR-UAV** 

Close Range Unmanned Aerial Vehicle.

CRA

1. Coordinating Review Authority. 2. Command Relationships Agreement.

CRAM

Control Random Access Memory.

CRB

Configuration Review Board.

CRC

1. Control and Reporting Center. 2. Circuit Routing Chart. 3. CONUS Replacement Center.

CRWG

Computer Resource Working Group.

Cryocoolers

Cryogenic Coolers.

Cryogenic

Of or related to cryogens (substances which are used to obtain low temperatures).

Crypto

A designation or marking which identifies classified operational keying material, and which indicates that this material requires special consideration with respect to access, storage and handling.

Cryptographic System

The documents, devices, equipment, and associated techniques that are used as a unit to provide a single means of encryption (enciphering or encoding).

Cryptology

The science that deals with hidden, disguised, or encrypted communications. It includes communications security and communications intelligence.

CSA

Chief of Staff of the Army.

**CSAF** 

Chief of Staff of the Air Force.

CSIP

Current Systems Improvement Program.

CSC

Computer Software Component:

CSCI

See Computer Software Configuration Item.

CSI

1. Critical Safety Item. 2. Critical Sustainability Item.

CSIZE

See Constellation Size.

CSO

See Closely Spaced Objects.

CSOC

See Consolidated Space Operations Center.

CSS

1. Cooperating Space System. 2. See Communications System Segment.

3. Contractor Support Services.

**CSSO** 

Computer Systems Security Officer.

CSTC

See Consolidated Space Test Center.

CT

1. Counterterrorism. 2. Communications Terminal. 3. Control Telemetry.

**CTAPS** 

Contingency Theater Automated Planning System (USAF).

**CTCC** 

Critical Technology Coordinating Committee.

CTD

Communications Test Driver.

**CTF** 

Controlled Test Flights.

стос

Corps Tactical Operations Center.

**CTP** 

1. Critical Technical Parameters. 2. Communication Tasking Plan.

3. Consolidated Targets Program.

**CTPP** 

Consolidated Targets Program Plan.

CTT

Commander's Tactical Terminal (US Army).

CTV

Control Test Vehicle.

**Cued Operation** 

The directing of one sensor based upon the data received from another sensor.

**Cueing Command** 

The command within a tactic which specifies the sensor element's coverage

volume.

**Cueing Data** 

Cueing data is a subset of object tracks within a sensor element's coverage

volume.

CV

1. See Carrier Vehicle. 2. USN Aircraft Carrier. 3. Curriculum Vitae.

**CVBG** 

USN aircraft carrier battle group.

CVISC

Combat Visual Information Support Center.

CVN

USN nuclear powered aircraft carrier.

CW

1. Continuous Wave. 2. Chemical Weapon/Warfare. 3. Carrier Wave.

**CWAR** 

Continuous Wave Acquisition Cycle (Hawk).

**CWBS** 

Contract Work Breakdown Structure.

**CWDD** 

Continuous Wave Deuterium Demonstrator.

D Spec

Process specification.

DA

1. Department of the Army. 2. Department of Administration.

3. Decision Analysis. 4. Developing Agency/Activity. 5. Data Administrator.

6. Direct Action. 7. Data Adapter.

DAASAT

Direct Ascent Anti-Satellite.

DAB

See Defense Acquisition Board.

DACS

Divert and Attitude Control System.

DADS

Distributed Air Defense Study (1993).

DAE

See Defense Acquisition Executive.

DAES

Defense Acquisition Executive Summary.

DAI

Damage Assessment Indicator (targets).

DAL

See Defended Asset List.

DANASAT

Direct Ascent Nuclear Anti-Satellite.

DARO

Defense Aeronautical Reconnaissance Office (OSD).

DARPA

OBSOLETE. Defense Advanced Research Projects Agency. See ARPA.

DART

OBSOLETE. Defense Acquisition Review Team.

DASD

OBSOLETE. Deputy Assistant Secretary of Defense.

DASO

Demonstration and Shakedown Operation.

**Data Integrity** 

The state that exists when computerized data is the same as that in the source documents and has not been exposed to accidental or malicious alteration or destruction.

**Datalink** 

1. The means of connecting one location to another for the purpose of transmitting and receiving data. 2. A particular path between two nodes over which data is transmitted. It includes not only the transmission medium, but digital to analog converters, modems, transmission equipment, antennas, etc., associated with this path. In the SDS backbone network, it was a path between two SDS elements. In space these datalinks were microwave or laser. On the ground, they could have been wireline, microwave, or optical fiber.

DAU

Defense Acquisition University.

Dazzling

The temporary blinding of a sensor by overloading it with an intense signal of electromagnetic radiation (e.g., from a laser or a nuclear explosion).

DBMDO

Director, Ballistic Missile Defense Organization.

DBMS

Database Management System.

**DBOF** 

Defense Business Operations Fund.

DCA

1. Defensive Counter Air. 2. OBSOLETE. Defense Communications Agency.

(Now known as Defense Information Systems Agency (DISA)).

DCAA

Defense Contract Audit Agency.

**DCDS** 

Distributed Computer Design/Development System.

DCI

1. Director of Central Intelligence. 2. Dual Channel Interchange.

DCINC

Deputy Commander-in-Chief.

DCM

See Defensive Counter Measures.

DCN

Document Change Notice.

DCPG

Digital Clock Pulse Generator.

DCS

Deputy Chief of Staff.

DCSOPS

Deputy Chief of Staff for Operations and Plans (Army).

DC-X

Delta Clipper Experimental.

DDCI

Deputy Director of Central Intelligence.

DDG

USN guided missile destroyer.

DDL

Disclosure authority letter.

DDN

Defense Data Network.

DDR&E

Director, Defense Research and Engineering.

DDDR&E

Deputy Director, Defense Research and Engineering.

DE

1. See Directed Energy. 2. Delay Equalizer.

Decentralized Control

In air defense, the normal mode whereby a higher echelon monitors unit actions, making direct target assignments to units only when necessary to ensure proper fire distribution or to prevent engagement of friendly aircraft.

Decentralized Execution The distributed and integrated implementation of USCINCSPACE direction by the BMD forces. (AFSPACECOM)

**Decommissioning** 

The removal or the rendering useless of obsolete or no longer needed components of the BMD system from service.

Decrement

A directed funding level reduction for an acquisition program.

Dedicated Mode of Operation (ADP Security) A mode of operation where all users of the AIS possess the required personnel security clearance or authorization, formal access approval (if required), and a Need-to-Know for all data included in the AIS.

Deep Space (DS)

The region of outer space at altitudes greater than 3,000 nautical miles (about 5,600 kilometers) above the earth's surface.

DEFCON

See Defense Readiness Conditions.

Defended Asset List (DAL) A ranked listing of facilities, forces, and national political items that require protection from attack or hostile surveillance. The list is compiled from Federal departments and agencies, Unified and Specified Commands, and the Armed Services to ensure National Security Emergency Preparedness functions.

Defense Acquisition Board (DAB) The senior DoD acquisition review board chaired by the Under Secretary of Defense for Acquisition. The Vice Chairman of the Joint Chiefs of Staff is the Vice-Chair. Other members of the Board are the Deputy Under Secretary of Defense for Acquisition and Technology, Service Acquisition Executives of the Army, Navy, and Air Force; the Director of Defense Research and Engineering; the Assistant Secretary of Defense for Program Analysis and Evaluation; the Comptroller of the Department of Defense; the Director of Operational Test and Evaluation; the appropriate Defense Acquisition Board Committee Chair; and the Defense Acquisition Board Executive Secretary. Other persons may attend at the invitation of the Chair. (See DoD Directive 5000.49, "Defense Acquisition Board.")

Defense Acquisition Board Committee Advisory review groups subordinate to the Defense Acquisition Board. The number of Committees is determined by the Under Secretary of Defense for Acquisition. The purpose of the Committee is to review DoD Component programs prior to a Defense Acquisition Board review in order to make an independent assessment and recommendation to the Board regarding the program. (See DoD Directive 5000.49, "Defense Acquisition Board.")

Defense Acquisition Executive (DAE) The principal advisor to the Secretary of Defense on all matters pertaining to the Department of Defense Acquisition System. The USD(A) is the DAE and the Defense Procurement Executive (DoD Directive 5134.1).

Defense
Acquisition
Executive
Summary (DAES)

The DAE's principal mechanism for tracking programs between milestone reviews. Includes programs subject to the Selected Acquisition Report (SAR), and any non-SAR programs subject to review by the Defense Acquisition Board.

Defense Employment Option (DEO) Engagement strategy provided to USSPACECOM component forces to achieve specific military objectives against a ballistic missile attack. It defines hostile target priorities, provides assets to defend, and allocates SDS resources to be employed. A number of DEOs may reside in a particular Preplanned Response Option (PRO). However, default DEOs (those believed to be best suited to counter the threat initially) will be automatically processed and executed when Defense Activation Authority (DAA) is given by USCINCSPACE.

Defense Enterprise Program (DEP) An Acquisition program designed to streamline the acquisition process by waiver of selected regulatory requirements.

#### Defense In-Depth

Locating mutually supportive defense positions in such a manner as to absorb and progressively weaken an attack, prevent initial observations of the entire position by the enemy, and allow the commander to maneuver his reserve.

Defense Meteorological Satellite Program (DMSP) Satellites designed to meet unique military requirements for weather information. Used to detect and observe developing cloud patterns and follow existing weather systems. Visible and infrared imagery are used to form three-dimensional cloud-plural analyses of various weather conditions.

Defense Planning and Resources Board (DPRB) A board, chaired by the Deputy Secretary of Defense, established to facilitate decision making during all phases of the planning, programming, and budgeting system process. Board members include the Secretaries of the Military Departments, the Chairman of the Joint Chiefs of Staff, the Under Secretaries of Defense for Acquisition and Technology, and Policy, the Assistant Secretary of Defense for Program Analysis and Evaluation, and the Comptroller of the Department of Defense.

Defense Planning Guidance (DPG) Document issued by SECDEF to DoD components providing strategic framework for developing the Service POMs. Result of planning effort by Joint Staff, OSD, and Services. Until 1986, issued annually in January. In connection with two-year budget process, is issued every other (even) year.

Defense Priority and Allocation System (DPAS) The implementation of a statutory requirement where contracts in support of national defense must be accepted and performed on a priority basis over all other contracts, and which requires the allocation of materials and facilities in such a manner as to promote the national defense. See "DO" and "DX."

Defense Readiness Conditions (DEFCON) A uniform system of progressive alert postures for use between the Chairman of the Joint Chiefs of Staff and the commanders of unified and specified commands and for use by the Services. Defense readiness conditions are graduated to match situations of varying military severity (status of alert). Defense Readiness Conditions are identified by the short title DEFCON (5), (4), (3), (2), and (1), as appropriate.

Defense Satellite Communications Systems (DSCS) Advanced communications satellites in synchronous orbit around the earth. Provides high-capacity, super high-frequency (SHF) secure voice and data links for the Worldwide Military Command and Control System (WWMCCS). They support terminal deployments for contingencies; restoration of disrupted service overseas; presidential travel; global connectivity for the Diplomatic Telecommunications Services; and transmission to the continental United States of some surveillance, intelligence, and early warning data.

Defense Satellite (DSAT) Weapon

A device that is intended to defend satellites by destroying attacking ASAT weapons.

Defense Support Program (DSP) A system of satellites in geostationary orbits, fixed and mobile ground processing stations, one multi-purpose facility, and a ground communications network (GCN). DSP's primary mission is to provide tactical warning and limited attack assessment of a ballistic missile attack.

Defense Suppression Temporary or transient degradation of the performance of a defensive system below the level needed to fulfill its mission objectives, by an opposing force. (USSPACECOM)

#### **Defense Tier**

The arranging of a defensive system to correlate with the phases of a ballistic missile trajectory; i.e., boost, post-boost, midcourse, and terminal.

#### Defensive Counter Measures (DCM)

Actions taken to eliminate an ASAT attack.

Defensive Technologies Study Team (DTST) A committee, generally known as the "Fletcher Panel" after its Chairman, appointed by (former) President Reagan to investigate the technologies of potential BMD systems.

#### DEFSMAC

Defense Special Missiles and Astronautics Center, Ft. Meade, MD.

#### **Delivery Error**

The inaccuracy associated with a given weapon system resulting in a dispersion of shots about the aiming point. See also Circular Error Probable.

#### Delta-V

A numerical index of the maneuverability of a satellite or rocket. It is the maximum change in velocity which a spacecraft could achieve in the absence of a gravitational field.

#### **Demise Altitude**

Altitude at which object of interest (decoy, chaff, etc.) no longer performs its desired function (matching RV characteristics, screening RV, etc.)

## Demonstration and Validation (Dem/Val)

The acquisition phase when major program characteristics and product designs are refined through extensive study and analysis, hardware development, test, and evaluations. The objective is to validate the choice of alternatives and to provide the basis for determining whether or not to proceed into Engineering and Manufacturing Development (EMD).

#### **Denial Measure**

An action to hinder or deny the enemy the use of space, personnel, or facilities. It may include destruction, removal, contamination, or erection of obstructions.

#### DEO

See Defense Employment Option.

# Department of Defense Acquisition System

A single uniform system whereby all equipment, facilities, and services are planned, designed, developed, acquired, maintained, and disposed of within the Department of Defense. The system encompasses establishing and enforcing policies and practices that govern acquisitions, to include documenting mission needs and establishing performance goals and baselines; determining and prioritizing resource requirements for acquisition programs; planning and executing acquisition programs; directing and controlling the acquisition review process; developing and assessing logistics implications; contracting; monitoring the execution status of approved programs; and reporting to Congress. (See DoD Directive 5134.1, "Under Secretary of Defense (Acquisition).")

#### Deployment

The placement of force elements in battle positions to obtain a higher state of readiness.
 The movement required to place force elements in battle positions.
 Fielding the weapons system by placing it into operational use with units in the field/fleet.
 To arrange, place, or move strategically.

### Deployment Planning

1. The development and maintenance of plans required to initially deploy, maintain, and evolve the operational system in accordance with schedules and priorities. It includes factors such as launch facility availability and planning for the availability of other required elements such as trained personnel or units. In addition, it identifies the impact of deployment on operational readiness and any testing constraints associated with deployment. 2. Encompasses all activities from origin or home station through destination, specifically including intra-continental United States, intertheater, and intratheater movement legs, staging areas, and holding areas.

#### Deployment Testing

The testing and/or simulation of system assets in the physical and operational environment in which they are expected to perform.

#### DepOpsDep

Service Deputy Operations Deputies.

#### Depressed Trajectory

Trajectory with an apogee below that of the minimum-energy trajectory.

### Derivative Classification

A determination that information is in substance the same as information currently classified and the application of the same classification marking.

#### DES

Data Encryption Standard.

#### Design Constraints

Boundary conditions within which the developer must remain while allocating performance requirements and/or synthesizing system elements.

#### Design Parameters

Qualitative, quantitative, physical, and functional value characteristics that are inputs to the design process, for use in design tradeoffs, risk analyses, and development of a system that is responsive to system requirements.

#### **Design Phase**

A period of time in the software life cycle during which the designs for architecture, software components, interfaces, and data are created, documented, and verified to satisfy requirements.

### Design-to-Cost (DTC) Goal

Management concept wherein rigorous cost goals are established during development, and the control of systems costs (acquisition, operating, and support) to these goals is achieved by practical tradeoffs between operational capability, performance, costs, and schedule. Cost, as a key design parameter, is addressed on a continuing basis and as an inherent part of the development and production process. A DTC goal should be in the form of average unit flyaway cost. Also, DTC parameters for operation and support will be selected-parameters that are design-controllable, significantly affect O&S costs, and can be measured during test and evaluation. Parameters may be expressed in dollars or by other measurable factors, e.g., manpower, reliability, or maintainability. Firm goals and thresholds will be established no later than entry into EMD (Milestone II). This is an in-house goal, almost contractual in nature, between the PM (Service) and the SECDEF. Allocations from this goal will become the contractual DTC goals for contractors supporting the program.

#### DETEC

Defense Technology Evaluation Code.

#### Detector

A passive IR, visible, UV detector turns photons into an electrical signal. The IFOV of the detector is its solid angular subtense. There is sometimes confusion between the detector subtense (size) and the pixel (picture element size). They are the same for a staring sensor, but in a scanner it depends on the array offset and number of samples per dwell. A pixel area is often only one-sixth or one-eighth of a detector angular area.

### Development Test I (DT I)

A series of tests conducted during the demonstration and validation phase. Components, subsystems, or the total (or full) system are examined to determine whether the system is ready for EMD. State-of-the-art technology is addressed in DT I.

#### Development Test II (DT II)

A series of tests, normally during EMD, which provide the technical data necessary to assess whether the system is ready for low-rate initial or full production. It measures the technical performance and safety characteristics of the item and evaluates its associated tools, test equipment, training package, and maintenance test package as described in the development plan. DT II addresses accomplishment of engineering design goals and the fulfillment of contract specifications.

### Development Test III (DT III)

Tests conducted during production.

#### Development Test and Evaluation (DT&E)

Test and evaluation conducted to measure progress, usually of component/subsystems, and the proofing of manufacturing processes and controls and to assist the engineering design and development process and verify attainment of technical performance specifications and objectives. Usually conducted under controlled or laboratory conditions. Can be conducted before or after production begins.

### Development Test (DT)

Test conducted by the development test organization to achieve specified test objectives. It may be a complete test, a subtest, or a phase of a test.

#### **Deviation Criteria**

Limits established beyond which a Program Manager may not trade-off cost, schedule, or performance without authorization from the milestone decision authority. Acquisition Program Baseline (APB) thresholds represent these parameters.

### Devolution of Command

Minimal essential operational capability to perform C2 provided in an orderly and timely fashion to a duly authorized successor.

DEW

1. See Directed Energy Weapon. 2. Directed Energy Warfare.

DEW/D

Directed Energy Weapon/Discrimination.

DEWG,O

Directed Energy Weapon Ground, Orbital

DEWL

Directed Energy Weapon, Laser (thermal or impulse).

DEWP

Directed Energy Weapon, Particle Beam (neutral or charged).

 $DF_2$ 

Deuterium Fluoride.

**DFARS** 

Defense Federal Acquisition Regulation Supplement.

DF-KBS

Data Fusion Knowledge Based System.

DG

OBSOLETE. Defense Guidance. See Defense Planning Guidance.

DIAC

Defense Intelligence Analysis Center.

Diameter

(Optics) The unit of measure of the light gathering power of a lens.

DID

Data Item Description.

Diffraction

The spreading out of electromagnetic radiation as it leaves an aperture. The angle of spread, which cannot be eliminated by focusing, is proportional to the ratio of the wavelength of radiation to the diameter of the aperture.

Digital Processing The most familiar type of computing, in which problems are solved through the mathematical manipulation of streams of bits.

Dip

A period of significantly decreased RCS signatures of an RV at low altitude (6 to 12 km) between wake termination and desheathing.

DIPS

Dynamic Isotope Power System (which provides up to 10 kW of power).

Direct Air Support Center A subordinate operational component of a tactical air control system designed for control and direction of close air support and other tactical air support operations, and normally collocated with fire support coordination elements.

**Direct Cost** 

Any cost that is specifically identified with a particular final cost objective. Is not necessarily limited to items that are incorporated into the end product as labor or material.

**Direct Labor** 

Labor specifically identified with a particular final cost objective. Manufacturing direct labor includes fabrication, assembly, inspection and test for constructing the end product. Engineering direct labor consists of engineering labor such as reliability, quality assurance, test, design, etc., that is readily identified with the end product.

Directed Energy (DE)

1. Energy in the form of atomic particles, pellets, or focused electromagnetic beams that can be sent long distances at, or nearly at, the speed of light.

2. An umbrella term covering technologies that relate to the production of a beam of concentrated electromagnetic energy or atomic or subatomic particles.

Directed Energy Device A system using directed energy primarily for a purpose other than as a weapon. Directed energy devices may produce effects that could allow the device to be used as a weapon against certain threats, for example, laser rangefinders.

Directed Energy Weapon (DEW) A system using directed energy primarily as a direct means to damage or destroy enemy equipment, facilities, and personnel.

DIRLAUTH

Direct Liaison Authorized.

DIRNSA

Director, National Security Agency.

DIS

1. Distributed Interactive Simulation. 2. Defense Investigative Service.

DISA

Defense Information Systems Agency, Washington, DC. (Formerly known as

Defense Communications Agency).

Discretionary \* **Judgment** 

The authority given USCINCSPACE or his duly authorized representative to

perform actions not covered by the ROE.

DLA

Defense Logistics Agency, Alexandria, VA.

DMA

Defense Mapping Agency, Fairfax, VA.

DMI

Dual-Mode Interceptor.

**DMSO** 

Defense Modeling and Simulation Office (OSD).

DMSP

See Defense Meteorological Satellite Program.

DMU

Disk Memory Unit.

DNA

Defense Nuclear Agency, Alexandria, VA.

DO

The lowest rating under the DPAS. All "DO" orders take preference over

unrated orders to meet a required delivery date.

Doctrine

Fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires

judgment in the application. See also Combined Doctrine.

**DoD Component** Acquisition Executive

A single official within a DoD Component who is responsible for all acquisition functions within that Component. This includes Service Acquisition Executives for the Military Departments and Acquisition Executives in other DoD

Components who have acquisition management responsibilities.

**DoD Components** 

The Office of the Secretary of Defense; the Military Departments; the Chairman, Joint Chiefs of Staff and Joint Staff; the Unified and Specified

Commands; the Defense Agencies; and DoD Field Activities.

DoDD

DoD Directive.

**DoD Directive** 5000.1

The principal DoD directive on acquisition. "Defense Acquisition." establishes policies, practices and procedures of governing the acquisition of

defense acquisition programs.

DoDI

DoD Instruction.

**DoD Instruction** 5000.2

"Defense Acquisition Management Policies and Procedures." **Implements** DODD 5000.1.

DoDIIS

DoD Intelligence Information System.

**DoDISS** 

DoD Index of Specifications and Standards.

DoD-M

DoD Manual.

DoE

Department of Energy.

DOF

Degrees of Freedom.

**Dog House** 

A large Soviet A-frame radar used as a component of the Moscow ABM system having a detection range of approximately 3000 km. It is believed to provide battle management for the totality of Moscow defenses.

Doppler Effect

The phenomenon evidenced by the change in the observed frequency of a sound or radio wave caused by a time rate of change in the effective length of the path of travel between the source and the point of observation.

DOT&E

Director, Operational Test & Evaluation.

DOTH

Defense of the Homeland.

**Down Select** 

To reduce the number of contractors working on a program by eliminating one or more for the next phase.

DPA

Defense Production Act.

**DPAS** 

See Defense Priority and Allocation System.

DPAT

Dynamic Program Analysis Tool.

DPB

Defense Policy Board.

DPG

See Defense Planning Guidance.

DPM

Deputy Program Manager.

DPR

Defense Performance Review.

DPRB

See Defense Planning and Resources Board.

DPRO

Defense Plant Representatives Office.

DPSSL

Diode-Pumped Solid State Laser.

DRAM

Dynamic Random Access Memory.

**Drawdown Curve** 

A method used to encapsulate the overall performance of a BMD system that plots the probability of survival on the vertical axis versus the number of attacking RVs on the horizontal axis. Used in conjunction with attack price, they are the most important expressions of a BMD capability.

DRB

Defense Resources Board.

Drift

In ballistics, a shift in projectile direction due to gyroscopic action that results from gravitational and atmospherically induced torques on the spinning

projectile.

Drone

A land, sea, or air vehicle that is remotely or automatically controlled. See also

Remotely Piloted Vehicle.

DS

See Deep Space.

**DSAA** 

Defense Security Assistance Agency (OSD).

**DSAT** 

See Defense Satellite Weapon.

DSB

Defense Science Board.

DSCS

See Defense Satellite Communications Systems.

DSN

Defense Switched Network.

DSP

1. Defense Support Program. 2. Defense Standardization Program.

DST

Defense Suppression Threat.

D Star

Measure of infrared sensor sensitivity.

DSTAR

Defense Strategic and Tactical Array Reproducibility.

DT

1. Discrimination Technique. 2. See Development Testing. 3. See Development

Test I, II, III.

DT&E

See Development Test and Evaluation.

DTC

See Design-to-Cost.

DTIC

Defense Technical Information Center, Alexandria, VA.

DT/OT

Developmental Test/Operational Test.

DTR

1. Demonstration Test Round. 2. Development Test Round.

DTSA

Defense Technology Security Administration.

DTSE&E

Director, Test Systems Engineering and Evaluation.

DTST

See Defensive Technologies Study Team.

DTT

Design-To Threat

**Dual Source** 

Two contractors producing the same components or end items for the same

program.

D/V

See Demonstration and Validation.

DΧ

The highest rating under the DPAS. It takes preference over all other rated and

not rated orders on a contractor's production line. The BMD program carries a

"DX" rating.

E2I

See Endo-Exoatmospheric Interceptor.

E2SRD

Effectively Two System Requirement Document.

E3

1. Electromagnetic Environmental Effects. 2. Electrical, Electronic, and Electromechanical.

E Spec

Materiel Specification.

EΑ

See Environmental Assessment. 2. Engagement Authorization.
 Executing Agent. 4. Evolutionary Acquisition.

EAC

Estimated Cost at Completion.

EAD

1. Engineering Analysis and Design. 2. Extended air defense.

EAD/D

Engineering, Analysis, Design and Development.

**EADSIM** 

Extended Air Defense Simulation.

**EADTB** 

Extended Air Defense Test Bed. An object-oriented simulation tool allowing users to model military response to airborne and ballistic missile threats.

**EADTBP** 

Extended Air Defense Test Bed Program.

**EAGLE** 

Extended Airborne Global Launch Evaluator.

EAM

Emergency Action Message.

Early Operational Assessment An operational assessment conducted prior to, or in support of, Milestone II.

Early User Test (EUT)

A test employing representative users to examine material concepts, training or logistics planning, or inter-operability issues. EUT can be accomplished during DEM/VAL on brassboard configurations, experimental prototypes, or surrogates to provide data leading to the decision to enter full-scale development.

**Early Warning** 

1. Early detection of an enemy ballistic missile launch, usually by means of surveillance satellites and long range radar. 2. Early notification of the launch or approach of unknown weapons or weapon carriers.

Earth Limb

The apparent outer edge of the earth as viewed from space.

Eastern Test Range (ETR) Beginning at Patrick AFB, FL, this range stretches half-way around the globe where it meets the Western Test Range. An array of launch complexes, sensors, and tracking sites make up the Eastern Test Range. The ETR is now operated by AFSPACECOM as shown in WTR definition.

EC

1. Electronic Combat. 2. Error Control. 3. OBSOLETE. European Community. Now known as the European Union (EU).

**ECAC** 

Electromagnetic Compatibility Analysis Center.

ECCM

Electronic Counter-Countermeasures.

**ECDs** 

See Element Control Directives.

ECM

Electronic Countermeasures.

ECO

Engagement Control Orders.

ECP

1. See Engineering Change Proposal. 2. Emergency Command Precedence.

ECS

Engagement Control Station (PATRIOT).

ECU

**Environmental Control Unit.** 

EDGES

Electronic Data/Guidelines for Element Survivability.

**EDM** 

Engineering Development Model.

EDR

Embedded Data Recorder (PATRIOT).

**EDWA** 

Engagement Determination and Weapons Assignment (PATRIOT).

EED

Electro-Explosive Device.

EEFI

Essential Elements of Friendly Information.

EEI

Essential Elements of Information.

EEU

Electronic Equipment Unit.

**EFEX** 

Endo-Aeromechanics Flight Experiment.

**Effective Damage** 

That damage necessary to render a target element inoperative, unserviceable,

nonproductive, or uninhabitable.

**Effluent Plume** 

The pathway of movement of effluents through surface water or air.

EGP

End Game Processor.

EHF

Extremely High Frequency.

EIA

1. Environmental Impact Assessment. 2. See Electronic Industries Association.

EIAP

Environmental Impact Analysis Process.

EIP

Exoatmospheric Interceptor Propulsion.

EIS

1. See Environmental Impact Statement. 2. Explosive Initiation System.

EKV

1. Electromagnetic Kill Vehicle. 2. Exoatmospheric Kill Vehicle.

#### **Elastic Range**

The stress range in which a material will recover its original form when the force (or loading) is removed. Elastic deformation refers to dimensional changes occurring within the elastic range.

#### Electromagnetic Compatibility (EMC)

A condition when all electromagnetic emissions from electronic, electromagnetic, and electro-optical components of a system interact without interfering with one another.

#### Electromagnetic Emanations

Signals transmitted as radiation through the air, through a vacuum, or through conductors.

### Electromagnetic Field (EMF)

An electric or magnetic field or combination of the two, as in an electromagnetic wave. Created by electric charges in motion, having both electric and magnetic components oriented at right angles to one another and containing a definite amount of energy.

### Electromagnetic Gun (EMG)

A gun in which the projectile is accelerated by electromagnetic forces rather than by an explosion, as in a conventional gun.

### Electromagnetic Interference (EMI)

Any electromagnetic disturbance that interrupts, obstructs, or otherwise degrades or limits the effective performance of electronics/electrical equipment. It can be induced intentionally, as in some forms of electronic warfare, or unintentionally, as a result of spurious emissions and responses, intermodulation products, and the like.

### Electromagnetic Pulse (EMP)

The electromagnetic radiation from a nuclear explosion caused by Compton-recoil electrons and photoelectrons from photons scattered in the materials of the nuclear device or in a surrounding medium. The resulting electric and magnetic fields may couple with electrical/electronic systems to produce damaging current and voltage surges. May also be caused by non-nuclear means.

### Electromagnetic Radiation (EMR)

1. A form of propagated energy, arising from electric charges in motion, that produces a simultaneous wavelike variation of electric and magnetic fields in space. The highest frequencies (or shortest wavelengths) of such radiation are possessed by gamma rays, which originate from processes within atomic nuclei. As one goes to lower frequencies, the electromagnetic spectrum includes x-rays, ultraviolet light, visible light, infrared light, microwaves, and radio waves. 2. Radiation made up of oscillating electric and magnetic fields and propagated with the speed of light. Includes gamma radiation, X-rays, ultraviolet, visible, and infrared radiation, and radar and radio waves.

#### **Electromagnetics**

Application of electrical, electronic, and magnetic phenomena to develop devices used in system/subsystem design, excluding employment in the RF spectrum.

### Electromagnetic Spectrum

The range of frequencies of electromagnetic radiation from zero to infinity. It is divided into 26 alphabetically designated bands.

#### Electronic Counter-Countermeasures (ECCM)

That division of electronic warfare involving actions taken to insure friendly effective use of the electromagnetic, optical, and acoustic spectra despite the enemy's use of electronic warfare to include high power microwave techniques.

#### Electronic Countermeasure (ECM)

That division of electronic warfare involving actions taken to prevent or reduce an enemy's effective use of the electromagnetic spectrum.

#### Electronic Industries Association (EIA)

A standards organization specializing in the electrical and functional characteristics of interface equipment.

#### Electronics Intelligence (ELINT)

Technical and geolocation intelligence derived from foreign non-communications electromagnetic radiations emanating from other than nuclear detonations or radioactive sources.

#### Electronics Security (ELSEC)

The protection resulting from all measures designed to deny unauthorized persons information of value that might be derived from their interception and study of noncommunications electromagnetic radiations, e.g. radar.

### Electronic Warfare (EW)

Any military activity involving the use of electromagnetic and directed energy to control the electromagnetic spectrum or to attack the enemy. The three major subdivisions are:

- Electronic attack -- Involves the use of electromagnetic or directed energy to attack personnel, facilities, or equipment with the intent of degrading, neutralizing, or destroying enemy combat capability. Also known as EA. Includes: 1) actions taken to prevent or reduce an enemy's effective use of the electromagnetic spectrum, such as jamming and electromagnetic deception, and 2) employment of weapons that use either electromagnetic or directed energy as their primary destructive mechanism (lasers, radio frequency weapons, particle beams).
- Electronic protection -- Involves actions taken to protect personnel, facilities, and equipment from any effects of friendly or enemy employment of electronic warfare that degrade, neutralize, or destroy friendly combat capability. Also called EP.
- Electronic warfare support -- Involves actions tasked by, or under direct control of, an operational commander to search for, intercept, identify, and locate sources of intentional and unintentional radiated electromagnetic energy for the purpose of immediate threat recognition. Thus, electronic warfare support provides information required for immediate decisions involving electronic warfare operations and other tactical actions such as threat avoidance, targeting, and homing. Also called ES.

#### Electronic Warfare (EW) Environments

Electronic warfare environments result from radar and communications jamming and other related electromagnetic countermeasures and counter-countermeasures. Currently, radar jamming is the sole EW threat for the NMD system.

### Electro-Optics Infrared (EO/IR)

Technologies/techniques employed by optical sensors in the wavelength spectrum slightly longer than visible but shorter than radio.

### Element Control Directives (ECDs)

The command and control data instructions to control the conduct of the engagement. ECDs are developed by command and control software based upon variable parameter input by the operators (both pre-planned and real time), and operator defined rule sets embedded in the software. The individual battle management processors use these instructions to accomplish the assigned tasks from the operations order. ECDs are contained within a Task and represent the form of parameter values that influence that resource management processes of Weapon Target Assignment (WTA), Sensor Resource Management (SRM), and Communications Management (CM). There will be numerous ECDs per Task.

Element
Operations
Center (EOC)

An Air Force operations center which operates and maintains a BMD weapon or sensor suite. (USSPACECOM)

ELF

Extremely Low Frequency.

ELIAS

Earth Limb Infrared Atomic Structure.

ELINT

See Electronics Intelligence.

ELS

Earth Limb Sensor.

ELSEC

See Electronics Security.

ELSI

Enhanced Longwave Spectrometer Imager.

ELV

Expendable Launch Vehicle.

Emanations Security (EMSEC) The protection that results from all measures designed to deny unauthorized persons information of value that might be derived from intercept and analysis of compromising emanations.

**EMC** 

1. See Electromagnetic Compatibility. 2. Early Midcourse.

**EMCON** 

See Emission Control

**EMD** 

See Engineering and Manufacturing Development (previously referred to as

FSD).

**EMF** 

See Electromagnetic Field.

**EMG** 

See Electromagnetic Gun.

EMI

See Electromagnetic Interference.

EMIP

See Exoatmospheric Midcourse Interceptor Program.

Emission Control (EMCON) The selective and controlled use of electromagnetic, acoustic, or other emitters to optimize command and control capabilities while minimizing: a) detection by enemy sensors, and b) mutual interference among friendly systems. EMCON

can also be involved in military deception plans. Also called EMCON.

**EML** 

Electromagnetic Launcher. A device used to launch hypervelocity particles.

**EMP** 

Electromagnetic Pulse.

**EMR** 

See Electromagnetic Radiation.

**EMRLD** 

Excimer Moderate Power Raman-Shifted Laser Device.

**EMSEC** 

See Emanations Security.

**EMV** 

Electromagnetic Vulnerability.

**Enclave** 

Isolated resource - an SDS asset which has lost connectivity with other SDS assets with which it normally has connectivity, but is still capable of coordinating with SDS assets to conduct ballistic missile defense. Various combinations of connectivity losses are possible; for example, (1) an operations center has lost connectivity with Higher Authority, yet can still provide sufficient C2 and can still connect with sufficient weapons and sensors to conduct an engagement and (2) an operations center has loss of connectivity with another operations center with which it normally shares data, but can still conduct an engagement.

**Endgame FOV** 

The field of view of the interceptor's sensor during its final maneuvers after target acquisition to intercept the target. May be less than the acquisition FOV.

**End Item** 

The final production product when assembled, or completed, and ready for issue/deployment.

**Endoatmospheric** 

Within the earth's atmosphere; generally considered to be altitudes below 100 km. An endoatmospheric interceptor reaches its target within the atmosphere.

Endo-Exoatmospheric Interceptor (E<sup>2</sup>I) A ground-based interceptor capable of engaging RVs either endoatmospheric or exoatmospheric. (Successor to High Endoatmospheric Defense Interceptor (HEDI).)

**ENDOSIM** 

Endoatmospheric Simulation.

Endurance

The time an aircraft can continue flying, or a ground vehicle or ship can continue operating, under specified conditions, e.g. without refueling.

Engage

1. In air defense, a fire control order used to direct or authorize units and/or weapon systems to fire on a designated target. 2. In air intercept, a code meaning, "Attack designated contact."

Engagement

1. A period of hostilities beginning when the first ballistic missile target undergoes fire from the first defensive weapon. 2. A period beginning whenever any hostile object is identified (designated) as hostile and ending after the last hostile object has been attacked. 3. In air defense, an attack with guns or air-to-air missiles by an interceptor aircraft, or the launch of an air defense missile by air defense artillery and the missile's subsequent travel to intercept.

#### Engagement Authorization

The authorization given by USCINCSPACE to use weapon and sensor systems under previously coordinated and authorized rules, procedures, and conditions.

#### Engagement Control

1. That set of coordination, assessment, decision, and direction functions normally implemented automatically to execute the selected battle plan, military strategy and tactics within partitioned battle spaces (i.e., a spatial/functional subdivision of battle management). Includes the determination of: (1) what specific objects to intercept in order to implement the selected military strategy, and (2) which specific interceptors to assign to each attacker to implement the selected tactics within the rules of engagement. 2. In air defense, that degree of control exercised over the operational functions of an air defense unit that are related to detection, identification, engagement, and destruction of hostile targets.

# Engagement ... Planning

A set of rules and parameters to be used in developing weapon-target assignments and for sensor resource management. (USSPACECOM)

#### Engagement Surveillance

The surveillance required to support RV negation in the midcourse tier.

# **Engagement Time**

The time that a weapon takes while engaging a given target. This includes not only firing at the target but all other necessary weapon functions involved that are unique to that particular target.

#### Engineering and Manufacturing Development (EMD)

The third phase in the acquisition process, following Milestone II. The system and its supporting items are fully developed, engineered, designed, fabricated, tested, and evaluated. The intended output is a preproduction system that closely approximates the final product, the documentation necessary to enter the production phase, and the test results demonstrating that the production product will meet stated requirements.

# Engineering Change Proposal (ECP)

A proposal to the responsible authority recommending that a change to an original item of equipment be considered, and the design or engineering change be incorporated into the article to modify, add to, delete, or supersede original parts.

# Engineering Development

A funding category including those development programs being engineered for service use but which have not yet been approved for procurement or operation. Money under budget activity 6.4.

# Engineering Development Model

An advanced prototype used during the Engineering and Manufacturing Development phase (EMD) to resolve design deficiencies, demonstrate maturing performance, and develop proposed production specifications and drawings.

# Environmental Assessment (EA)

A concise public document whose primary purpose is to provide sufficient analysis of environmental effects of an action to determine whether to prepare an environmental impact statement or a finding of no significant impact.

# Environmental Impact Statement (EIS)

A detailed written statement analyzing the environmental effects of a major Federal action.

Environmental

Security

A specialized form of physical security that prevents technical penetration, e.g., penetration by waves of electron beams.

**Environments** 

The media, conditions, and/or physical objects in which a BMD asset is immersed or surrounded. For BMD systems and elements, the comprehensive environments definition consists of natural, hostile, induced, and storage, transportation and handling categories.

ΕO

1. Electro-Optical. 2. Engagement Operations. 3. End Office. 4. Eyes Only.

EOA

Early Operational Assessment.

EOB

1. Enemy Order of Battle. 2. Electronic Order of Battle.

EOC

1. See Element Operations Center. 2. Emergency Operations Center

EOCT

Element Operations Center Test Bed.

EO/IR

See Electro-Optics Infrared.

EOM

End of Message.

EP

1. See Engagement Planning. 2. Evaluation Plan

Ephemeris/ Ephemerides 1. A table showing the positions of an object in space at regular intervals of time. 2. A publication giving the computed places of the celestial bodies for each day of the year or for other regular intervals.

**EPITS** 

Essential Program Information Technology and Systems.

**EPP** 

Electric Power Plant (PATRIOT).

Equipment Operationally Ready The status of an item of equipment in the possession of an operating unit that indicates it is capable of fulfilling its intended mission and in a system configuration that offers a high assurance of an effective, reliable, and safe performance.

**ERADCOM** 

OBSOLETE. Army Electronics Research and Development Command. (Now Laboratory Command (LABCOM), Adelphi, MD.)

ERINT

OBSOLETE. Extended Range Interceptor. Now referred to as PAC-3.

**ERIS** 

OBSOLETE. Exoatmospheric Reentry Vehicle Interceptor Subsystem. (Predecessor to Ground-Based Interceptor (GBI).)

ERIS(F)

OBSOLETE. ERIS Farm.

**ERS** 

1. Early Release of Submunitions. 2. Emergency Response System.

**ESA** 

Electronically Scanned Array.

ESC

Electronic System Center (AFMC), Hanscom AFB, MA.

**ESCN** 

Existing Systems and Center Notebook.

ESD

OBSOLETE. Electronic Systems Division. (Now Electronic Systems Center,

Hanscom AFB, MA.)

**ESM** 

1. Electronic Warfare Support Measures. 2. Electronic Support Measures.

**ESMC** 

Eastern Space and Missile Center, Patrick AFB, FL.

ETA

Estimated Time of Arrival.

**ETC** 

1. Electro-Thermal Chemical. 2. Estimated Time-to-Completion.

ETD

1. Estimated Time of Departure. 2. Electronic Transfer Device.

**ETERTS** 

End-to-End Real Time Simulator.

ETI

Estimated Time of Intercept.

ETIC

Estimated Time for Completion.

ETR

1. See Eastern Test Range. 2. Environmental Test Round. 3. Estimated Time

to Repair.

EUCOM

European Command. See USEUCOM.

**EUT** 

See Early User Test.

EVA

Extravehicular Activity.

**Evasive MRV** 

A reentry vehicle which maneuvers for the purpose of evading defensive

weapons.

Event Based Contracting

Support "event driven acquisition strategy" by linking specific contractual events to the "exit criteria" for the acquisition phase, or to intermediate

development events established for the acquisition strategy.

Event Driven Acquisition Strategy

An acquisition strategy that links program decisions to demonstrated accomplishments in development, testing, and production.

**Event Validation** 

A sensor element internal process that results in a determination by the operator that the sensor is healthy and the event reported is real.

**Event Verification** 

The process by which it is decided, from SDS external data, that the event reported is real.

Evolutionary Acquisition

An approach in which a core capability is fielded, and the system design has a modular structure and provisions for future upgrades and changes as requirements are refined. An evolutionary acquisition strategy is well suited to high technology and software intensive programs where requirements beyond a core capability can be generally, but not specifically, be defined.

Evolutionary Requirements Definition Mission needs are first expressed in broad operational capability terms, then

progressively evolved to system specific performance requirements.

**EVPA/TEVS** 

Experimental Version Performance Assessment Test Environment System.

EW

1. See Electronic Warfare. 2. Early Warning.

EW/AA

Early Warning and Attack Assessment.

**EWCC** 

Expanded Weapons Control Computer (PATRIOT).

**EWN** 

Early Warning Net.

**EWR** 

Early Warning Radar.

EWO

Electronic Warfare Officer.

EXCEDE

Electron Accelerator Experiment.

Excimer

A contraction for "excited dimer"; a type of lasant. A dimer is a molecule consisting of two atoms. Some dimers (e.g., xenon chloride and krypton fluoride) are molecules which cannot exist under ordinary conditions of approximate thermal equilibrium but must be created in an "excited" (e.g., energized) condition by special "pumping" processes in a laser.

Excimer Laser (EXL)

A laser in which emission is stimulated when a gas is shocked with electrical energy and the excited medium emits light when returning to a ground state.

Executable Program

A program is executable if the PM has adequate near-term approved funding.

**Executing Agent** 

The individual within the executing element assigned responsibility for managing BMDO funded programs.

Executing Elements

Agencies or organizations (DoD or non-DoD) that are managing BMD-related programs.

Executing Responsibility

Program Manager responsibility.

Exercise

A military maneuver or simulated wartime operation involving planning, preparation, and execution. It is carried out for the purpose of training and evaluation. It may be a combined, joint, or single-Service exercise, depending on participating organizations. See also Command Post Exercise.

**Exit Criteria** 

Program specific accomplishments that must be satisfactorily demonstrated before an effort or program can progress further in the current acquisition phase or transition to the next acquisition phase. Exit criteria may include such factors as critical test issues, the attainment of projected growth curves and baseline parameters, and the results of risk reduction efforts deemed critical to the decision to proceed further. Exit criteria supplement minimum required accomplishments and are specific to each acquisition phase.

EXL

See Excimer Laser.

Exoatmospheric

Outside the Earth's atmosphere; generally considered to be altitudes above 100

Exoatmospheric Reentry Vehicle Interceptor Subsystem (ERIS) OBSOLETE. Interceptor designed to provide functional test validation of GBI.

Expatmospheric Test Bed (XTB)

Flight qualified and range integrated vehicle to support other programs such as

GBI-X.

A decoy that matches RV signature exoatmospherically. Exo decoys can use **Exo Decoy** 

radar and/or optical means to deceive sensors.

Software programs which use artificial intelligence techniques to capture and **Expert Systems** 

apply the non-algorithmic knowledge and procedures of human experts.

**Expired Appropriation**  An appropriation that is no longer available for new obligation but is still available for disbursement to liquidate existing obligations. Under current legislation no disbursement may be recorded or paid after a five year expiration period. Maintains all original accounting identity, e.g. FY, appropriation, PE,

etc.

**EXPLAN** 

Exercise Plan.

**Explicit** Coordination A battle management technique which communicates results, decisions or command from one battle manager to another, usually from a higher command

to a lower command.

Extended **Planning Annex**  A document providing program guidance for an additional 10 years beyond the

POM.

FA

1. Field Artillery. 2. Feasibility Assessment.

FAAD

Forward Area Air Defense (US Army).

FAAWC

Fleet/Force Anti-Air Warfare Commander.

FAB

Fly Along Probe.

FAD

1. Force Activity Designator. 2. Feasible Test Date.

**Fairing** 

Structure to protect the payload during ascent phase.

**FAIT** 

Fabrication Assembly, Inspection/Integration, and Test.

FAR

See Federal Acquisition Regulation.

Far Field

The region far from an antenna compared to the dimensions of the antenna and

the wavelength of the radiation.

Fast-Burn Booster (FBB) A ballistic missile that burns out much more quickly than current versions, possibly before exiting the atmosphere entirely. Such rapid burnout

complicates a boost-phase defense.

**Fault Tolerance** 

The ability of a processor to maintain mission effectiveness after some

subsystems have failed.

FAS

Fly Away Sensor (TCMP).

FAT

1. First Article Testing. 2. Factory Acceptance Test.

**FBB** 

See Fast-Burn Booster.

FBM

Fleet Ballistic Missile.

FBP

Forward Based Probe.

FCA

See Functional Configuration Audit.

FCN

See Fully Connected Network.

**FCRC** 

OBSOLETE. Federal Contract Research Center.

**FCS** 

Fire Control Section.

**FCT** 

Foreign comparative testing.

FD

First Deployment.

FDG

Foreign Disclosure Guide.

FDR

Final/Formal Design Review.

FDS

1. Flight Demonstration System. 2. Fault Detection System.

FDT&E

See Force Development Test and Experimentation (US Army).

FEA

See Functional Economic Analysis.

Feasibility Study

A study of the applicability or desirability of any management or procedural system from the standpoint of advantages versus disadvantages in any given case.

FEBA

Forward Edge of the Battle Area.

Federal Acquisition Regulation The primary regulation for use by federal executive agencies for acquisition of supplies and services with appropriated funds. It directs the defense program manager in many ways, including contract award procedures, acquisition planning, warranties, and establishing guidelines for competition. The FAR is supplemented by the Military Departments and by DoD. The DoD supplement is called DFARS (Defense FAR Supplement).

FEL

See Free Electron Laser.

**Fenced Funding** 

An identified aggregation of resources reviewed, approved, and managed as a distinct entity. The proposed program must be implemented within specified resources. Examples of fences areas are: Intelligence and Security, Support to Other Nations.

FER

Financial Execution Review.

FET

Field Effect Transistor.

**FEWS** 

Follow-on Early Warning System.

FFH

Fast Frequency Hopping.

FFP

Firm Fixed Price.

**FFRDC** 

Federally Funded Research and Development Center.

**FGEP** 

See Fixed Ground Entry Point.

Field of View (FOV)

The angular measure of the volume of space within which the system can respond to the presence of a target.

Fighting Mirror (FMIR)

Part of the GBL System. The low orbit mirror which receives laser energy and reflects it to the target.

Figure of Merit

The numerical value assigned to a measure of effectiveness, parameters, or other figure, as a result of an analysis, synthesis, or estimating technique.

FIP

(FOM)

Federal Information Processing.

**Fire Control** 

The control of all operations in connection with the application of fire on a target.

#### Fire Control System

A group of interrelated fire control equipment and/or instruments designed for use with a weapon or group of weapons.

#### Fire Support Coordinating Measure

A measure employed by land or amphibious commanders to facilitate the rapid engagement of targets and simultaneously safeguard friendly forces.

#### Fire Support Coordinating Line (FSCL)

A line established by the appropriate ground commander to ensure the coordination of fire not under the commander's control but may affect current tactical operations. The fire support coordination line is used to coordinate fires of air, ground, or sea weapons systems using any type of ammunition against surface targets. The fire support coordination line should follow well defined terrain features. The establishment of the FSCL must be coordinated with the appropriate tactical air commander and other supporting elements of the FSCL without prior coordination with the ground force commander provided the attack will not product adverse effects on or to the rear of the line. Attacks against surface targets behind this line must be coordinated with the appropriate ground force commander.

#### Firing Doctrine

The ratio and manner of assigning numbers of interceptors against given attackers. Alternatives include: One-on-one, salvo, shoot-look-shoot, shoot-fail-shoot, etc. The doctrine will be driven by the priority of targets being defended and the number of interceptors available relative to the number of attackers.

#### Firing Rate

The number of missiles fired per site per minute.

#### FIRMR

Federal Information Resources Management Regulation.

#### First Article

First article includes preproduction models, initial production samples, test samples, first lots, pilot models, and pilot lots. Approval involves testing and evaluating the first article for conformance with specified contract requirements before or in the initial stage of production under a contract.

#### First Strike

The first offensive action of a war (generally associated with nuclear operations).

# First Unit Equipped Date

The scheduled date an end item and its support elements are issued to the initial operational capability unit and training in the new equipment training plan has been accomplished.

#### **Fiscal Guidance**

The annual guidance issued by the SECDEF in the Defense Guidance which provides the fiscal constraints that must be observed by the DoD Components in the formulation of force structures and the FYDP, and by the OSD in reviewing proposed programs.

#### **Fixed Costs**

Costs that do not vary with the volume of business, such as property taxes, insurance, depreciation, security, and minimum water and utility fees.

#### Fixed Ground Entry Point (FGEP)

The subset of GEPs which are not transportable. GEPs provide the communications interfaces between the SDS space orbital/sub-orbital elements and the  $C^2E$ .

Fixed Ground Station All hardware, software, and facilities located at a fixed ground site necessary to receive, process, support, and analyze mission status and data, and disseminate operational messages.

FLAGE

OBSOLETE. Flexible Lightweight Agile Guided Experiment. (Predecessor program to Extended Range Interceptor (ERINT).)

Fleet Satellite Communications System (FLTSATCOM) Operating at ultra high frequency (UHF), FLTSATCOM allows relatively low-cost terminals with simple antennas for use on highly mobile platforms. It has a relatively small capacity because of its much lower operating frequency. It provides a satellite communication system for high-priority communication requirements for the Navy and Air Force that encompasses almost the entire world. It supports other DoD needs as well. It consists of satellites in geosynchronous equatorial orbit, each with 23 communication channels in the UHF and SHF bands. The Navy has exclusive use of 10 channels for communication with its land, sea, and air forces. The Air Force uses 12 others as part of its AFSATCOM system for command and control of nuclear capable forces. The system has one 500 KHz channel allotted to the national command authorities.

Flexible Response The capability of military forces for effective reaction to any enemy threat or attack with actions appropriate and adaptable to the circumstances existing.

Flight Path

The line connecting the successive positions occupied, or to be occupied, by an aircraft, missile, or space vehicle as it moves through air or space. (It is more commonly referred to as trajectory for space vehicles, especially ICBMs.)

Flight Readiness Firing

A missile system test of short duration conducted with the propulsion system operating while the missile is secured to the launcher. Such a test is performed to determine the readiness of the missile system and launch facilities prior to flight test.

Flight Test

Test of an aircraft, rocket, missile, or other vehicle by actual flight or launching. Flight tests are planned to achieve specific test objectives and gain operational information.

Flight Test Vehicle (FTV) Prototype of airborne or spaceborne hardware used to validate a technology concept.

FLIR

Forward Looking Infrared Radar.

**FLHER** 

Funds and Labor Hours Expenditure Report.

FLOT

Forward Line of Own Troops.

**FLTSATCOM** 

See Fleet Satellite Communications System.

Fluence (or Integrated Flux) The product (or integral) of particle (neutron or photon) flux and time, expressed in units of particles per square centimeter. The absorbed dose of radiation (in rads) is related to the fluence. (It should be specified whether this is incident or absorbed fluence).

Flyaway Cost

The total cost related to the production of a usable end item of military hardware. Flyaway cost includes the cost of procuring the basic unit (airframe, hull, chassis, etc.), a percentage of basic unit cost for changes allowance, propulsion equipment, electronics, armament, and other installed government-furnished equipment, and nonrecurring production costs. Flyaway cost equates to Rollaway and Sailaway cost.

FΜ

1. Flare Multiunit. 2. Frequency Modulation. 3. Functional Manger. 4. Force Module(s). 5. Field Manual.

**FMA** 

Foreign Military Acquisition.

**FMC** 

Flexible Manufacturing Cell.

**FMP** 

Foreign Materiel Program.

**FMIR** 

See Fighting Mirror.

**FMS** 

1. Flight Mission Simulator (PATRIOT), Huntsville AL. 2. See Foreign Military Sales.

FO

Force Operations (PATRIOT).

**FOB** 

Forward Operations Base.

**FOBS** 

Fractional-Orbital Bombardment System.

FOC

See Full Operational Capability.

Focal Plane

The plane, perpendicular to the optical axis of the lens, in which images of points in the object field of the lens are focused.

Focal Plane Array (FPA) An FPA is a matrix of photon sensitive detectors which, when combined with low noise preamplifiers, provides image data for the signal frequencies of interest.

**FOL** 

Forward Operating Location.

**Folded Optics** 

Any optical system containing reflecting components for the purpose of reducing the physical length of the system or for the purpose of changing the path of the optical axis.

Follow-On Operational Test and Evaluation (FOT&E) That test and evaluation that is necessary during and after the production period to refine the estimates made during operational test and evaluation, to evaluate changes, and to reevaluate the system to ensure that it continues to meet operational needs and retains its effectiveness in a new environment or against a new threat.

FOM

See Figure of Merit.

FON

Fiber Optic Network.

#### **Footprint**

1. An estimated area of possible reentry or the solid angle of a detector or linear area of a detector at a certain location. 2. Geographic area in which a focused satellite down-link can be received.

#### FOR

Field of Regard.

#### **Force Closure**

The point in time when a supported commander determines that sufficient personnel and equipment are in the assigned area of operations to carry out assigned tasks.

## Force Development Test and Experimentation

Tests employing representative users to examine definition of materiel requirements or support/assess development of doctrine, training, organization, and logistics for system acquisition. (U.S. Army).

#### **Force Direction**

The operational management of the forces.

# Force Integration Staff Officer

Army individual assigned to ODCSOPS to serve as HQDA user representative for a specific system. Provides continuous coordination necessary for integration of a new system into the Army force structure.

#### Force Management

The assessment of the effectiveness of the defense forces throughout an engagement and adjustment of tactics and the system configuration as necessary to effectively allocate resources to satisfy mission objectives.

#### **Force Reliability**

The percentage of the missile force that will successfully detonate within 3.5 CEPs of the target.

#### **FORDTIS**

Foreign Disclosure Technical Information System.

#### Foreign Government Information

Information that is (1) provided to the United States by a foreign government or governments, an internal organization of governments, or any element thereof with the expectation, expressed or implied, that the information, the source of the information, or both, are to be held in confidence; (2) produced by the United States pursuant to or as a result of a joint arrangement with a foreign government or governments or international organization of governments requiring that the information, the arrangement, or both, are to be held in confidence.

#### Foreign Military Sales (FMS)

That portion of U.S. security assistance authorized by the Foreign Assistance Act of 1961, as amended, and the Arms Export Control Act, as amended. The recipient provides reimbursement for defense articles and services transferred from the U.S. Includes case sales from stocks (inventories, services, training) by the DoD defense services.

# Foreign Security Policy Model

A mathematically precise statement of a security policy. To be adequately precise, such a model must represent the initial state of a system, the way in which the system progresses from one state to another, and a definition of a "secure" state of the system.

# Form, Fit, and Function Data

Technical data pertaining to items, components or processes for the purpose of identifying source, size, configuration, mating and attachment characteristics, functional characteristics and performance requirements.

Formal Qualification Review A systems level configuration audit conducted after system testing is completed to ensure that performance requirements have been met.

Formerly Restricted Data Information removed from the RESTRICTED DATA category upon joint determination by DoE (or antecedent agencies) and DoD that such information relates primarily to the military utilization of atomic weapons and that such information can be adequately safeguarded as classified defense information.

Forward Edge of the Battle Area (FEBA) The foremost limits of a series of areas in which ground combat units are deployed, excluding the areas in which the covering or screening forces are operating, designated to coordinate fire support, the positioning of forces, or the maneuver of units.

Forward Funding

Carry-over of RDT&E funding into second year of appropriations availability. Requires permission from high authority.

FOS

Family of Systems (TMD).

FOT

Follow-On Technologies.

FOT&E

See Follow-On Test & Evaluation.

Fourth Generation Language

A programming environment that produces both screen and report utilities for use by lower-level programming environments.

FOV

See Field of View.

FΡ

Focal Plane.

**FPA** 

See Focal Plane Array.

FPI

Fixed Price Incentive.

FOR

Formal Qualification Review.

Fragmentation Warhead

A warhead which releases small solid objects to damage or destroy its targets.

Free Electron Laser (FEL) A type of laser which generates radiation by the interaction of an electron beam with a static magnetic or electric field. Loosely speaking, free-electron laser technology resembles and evolved from that used by particle accelerators ("atom smashers"). Lasers which are not free electron lasers are bound electron lasers.

Free Rocket

A rocket not subject to guidance or control in flight.

Frequency Management The act of allocating frequencies, or bandwidths to a telecommunications system, necessary to minimize the potential interference between transmitting/receiving devices. Approval of authorized use of a particular frequency, frequencies, or bands are controlled by governing agencies and international agreement.

FROG

Free Rocket Over Ground.

FRN

Force Requirement Number.

FS3

Future Strategic Strategy Study.

**FSC** 

1. Fire Solution Computer. 2. Fire Support Coordination.

**FSCL** 

Fire Support Coordination Line.

FSD

OBSOLETE. Full Scale Development Phase. See EMD.

FSE

Fire Support Element.

FT

Flight Test.

FTD

OBSOLETE. Foreign Technology Division (USAF), Wright-Patterson AFB, OH. See NAIC.

FTV

1. Functional Technology Validation. 2. See Flight Test Vehicle.

FTX

Field Training Exercise.

FU

Fire Unit (PATRIOT).

FUE

First Unit Equipped.

Full Mission Capable Material condition of an aircraft or training device indicting that it can perform all of its missions. Also called FMC.

Full Operational Capability (FOC)

The full attainment of the capability to employ effectively a weapon, item of equipment, or system of approved specific characteristics, which is manned and operated by a trained, equipped, and supported military unit or force.

Full Rate Production Production of economic quantities following stabilization of the system design and prove-out of the production process.

Fully Configured End Item The final combination of end products, component parts, and/or materials which is fully ready for its intended operational use. Normally all production units are fully configured. Research and development units may be considered fully configured if they are or are planned to become operationally equivalent to the production units.

Fully Connected Network (FCN) A network in which each node is directly connected with every other node.

Functional Analysis An approach to the solution of a problem, in which the problem is broken down into its component function, such as intelligence, firepower, or mobility. Each relevant function is then further analyzed and broken down into smaller functional components until a level of molecularity suitable for solution of the problem is attained.

#### Functional Baseline

1. Established after the system requirements analysis/design activity has completed the definition of the system functions and associated data, interface characteristics, functional characteristics for key configuration items, and tests required to demonstrate achievement of each specified characteristic. This baseline is normally controlled by the Government. 2. In configuration management, the initial approved technical documentation for a configuration item. 3. Documentation describing a system's functional characteristics and the verification required to demonstrate the achievement of requirements.

#### Functional Configuration Audit (FCA)

The formal examination of functional characteristics test data for configuration item, prior to acceptance, to verify that the item has achieved the performance specified in its functional or allocated configuration identification.

#### Functional Economic Analysis (FEA)

A structured proposal that serves as the principal part of a decision package for enterprise leadership. It includes an analysis of functional process needs or problems; proposed solutions, assumptions, and constraints; alternatives; lifecycle costs; benefits and/or cost analysis; and investment risk analysis. It is consistent with, and amplifies, existing DoD economic analysis policy in DoD Instruction 7041.3.

#### Functional Kill

The destruction of a target by disabling vital components in a way not immediately detectable, but which nevertheless prevents the target from functioning properly. An example is the destruction of electronics in a guidance system by a neutral particle beam. Also referred to as "soft kill."

#### Functional Support

Systematized methodologies and procedures, or a common set of standards, applied to materiel acquisition programs.

#### Functional Technology Validation (FTV)

Program with the intent of proving or disproving a technology is useful for a given application.

# **Functional Testing**

The portion of testing in which the advertised features of a system are tested for correct operation.

#### **Funding Profile**

Program funding, usually displayed in columnar spread sheet format by years, starting with previous year through current year and out-years.

#### Future Years Defense Program (FYDP)

The official DoD document that summarizes forces and resources associated with programs approved by the Secretary of Defense. Its three parts are the organizations affected, appropriations accounts and the 11 major force programs (strategic forces, airlift, R&D, etc.). Under the biennial PPBS cycle, the FYDP is updated in even years in April (POM); October (budget); and then in January (President's budget) of odd years. The primary data element in the FYDP is the Program Element (P.E.). Formerly known as the Five Years Defense Program.

#### **FYDP**

See Future Years Defense Program.

GaAs

Gallium Arsenide.

Galosh

The Soviet Anti-Ballistic Missile system built to defend Moscow from missile

attack.

Gamma-Rav

Electromagnetic radiation resulting from nuclear transitions. Although incorrect, high-energy radiation, particularly "bremsstrahlung," is sometimes referred to as

gamma radiation.

Gamma-Ray

Laser

A laser which generates a beam of gamma rays; also called a "graser." A gamma-ray laser, if developed, would be a type of x-ray laser; although it

would employ nuclear reactions, it need not (but might) employ nuclear fission

or fusion reactions or explosions.

G&A

General and Administrative costs.

G&C

Guidance and Control.

GARDIAN

General Area Defense Integrated Anti-missile Laser System.

Gateway

An element that contained a node on the SDS backbone network as well as on some other network(s) and would have performed protocol and format conversions necessary to accept messages from one network and retransmit

them on the other.

GBFEL

Ground-Based Free Electron Laser.

**GBHE** 

Ground-Based Hypervelocity Gun Experiment.

**GBHRG** 

Ground-Based Hypervelocity Rail Gun.

GBI

OBSOLETE. See Ground-Based Interceptor.

GBI-X

Ground-Based Interceptor Experiment.

GBKV

Ground-Based Kinetic Kill Vehicle.

GBL

Ground-Based Laser.

GBLD

Ground-Based Launcher Demonstration.

**GBLRS** 

Ground-Based Laser Repeater Station.

GBM

Global Battle Managers.

**GBMD** 

Global Ballistic Missile Defense.

**GBMI** 

Ground-Based Midcourse Interceptor.

GBOS

Ground-Based Optical System.

**GBPST** 

Ground-Based Passive Signal Tracking.

GBR

See Ground-Based Radar.

**GBRI** 

Ground-Based Rocket Interceptor.

GBRT

See Ground-Based Radar Terminal.

GBR-X

The experimental version of the GBR.

GBS

Ground-Based Sensor.

GCA

Guidance, Control, and Avionics.

**GCCS** 

Global Command and Control System.

GCI

Ground Control Intercept.

GCN

Ground Communications Network.

GCS

Ground Control Station.

**GEDI** 

Ground-Based Electromagnetically-Launched Defensive Impactors.

GEM

See Guidance Enhancement Missile (PATRIOT).

General Manager

(GM)

OBSOLETE. A senior military official (3-star) reporting to the BMDAE with

delegated execution responsibility for overall BMD system acquisition.

General Manager

Program
Management
Directive (GPMD)

OBSOLETE. The primary document used by the GM to direct the Service BMD PEO on the specific actions necessary to fulfill BMD program requirements.

General Specifications A general specification covers requirements common to two or more types, classes, grades, or styles of products, services or materials; this avoids the repetition of common requirements in detail specifications. It also permits changes to common requirements to be readily affected. General specifications may also be used to cover common requirements for weapons systems and subsystems.

**GEO** 

Geosynchronous Earth Orbit.

GEP

OBSOLETE. Ground Entry Point. See IFICS.

GES

Ground Engineering System.

Geostationary Orbit (GSO) An orbit 35,784 km above the equator. A satellite placed in such an orbit revolves around the earth once per day, maintaining the same position relative to the surface of the earth. It appears to be stationary, and is useful as a communications relay or as a surveillance post.

Government Furnished Equipment. See Government Furnished Property.

GFI

GFE

Government Furnished Information.

**GFM** 

Government Furnished Material.

Ghosting

This condition occurs when two or more targets reside close to the same plane also containing two sensors viewing the targets so they are within experimental determination of having the same hinge angle F. Thus, ghosting depends on LOS error and positions.

GIP

Ground Impact Point.

GITIS

Government Integrated Technical Information System.

**GLCM** 

Ground-Launched Cruise Missile.

GLP

Ground Launched Probe. See Brilliant Eyes Probe.

Global Environment The ISTC Global Environment is responsible for the creation, propagation, and maintenance of test scenario common knowledge, how subsets of this information will be determined, and how common knowledge will be disseminated to the various element representations (nodes). The Global Environment performs functions which are common to the scenario such as timing, health, status, state vectors of objects, and effects models.

Global Positioning System (GPS) The NAVSTAR Global Positioning System is a space-based radio navigation network providing precise positioning and navigation needs of all the military services. In the fully operational configuration, there will be 18 satellites in six orbital planes with an orbit period of 12 hours at 10,900 nautical miles altitude. Each satellite transmits three L-band, pseudo-random noise-coded signals, one S-band, and one ultra high frequency for spacecraft-to-spacecraft data relay.

Global Protection Against Limited Strikes (GPALS) OBSOLETE. GPALS was an architecture denoting an anti-missile system designed to provide protection against limited ballistic missile strikes, be they deliberate, accidental or unauthorized--whatever their source. GPALS was composed of three interrelated segments: (1) theater ballistic missile defenses, and associated space-based sensors, to protect U.S. forces deployed abroad, and our friends and allies; (2) ground-based defenses, with space sensors, to protect the entire United States against long-range ballistic missiles; and (3) interceptors based in space -- Brilliant Pebbles -- capable of providing continuous, global coverage by intercepting enemy ballistic missiles with ranges greater than several hundred miles.

Global Protection Against Limited Strikes (GPALS) Program OBSOLETE. The GPALS Program consisted of six Major Defense Acquisition Programs: GPALS System/BMC<sup>3</sup>, National Missile Defense (NMD), Global Missile Defense (GMD), Upper Tier Theater Missile Defense (UTTMD), Corps SAM, and PATRIOT. Army PEO GPALS was redesignated PEO Missile Defenses in 1992.

**GLOW** 

Gross Lift-Off Weight.

GLS

Ground-Launched Sensor.

GM

1. Guided missile. 2. See General Manager.

**GMAOC** 

Ground Mobile Alternate Operations Center.

**GMCC** 

Ground Mobile Command Center.

**GMCP** 

Ground Mobile Command Post.

GMD

Global Missile Defense.

**GMROC** 

See Ground Mobile Regional Operations Center.

**GMTT&C** 

Ground Mobile Tracking, Telemetry, and Control.

GN&C

Guidance, Navigation, and Control.

GOCO

Government Owned, Contractor Operated.

GOES

Geostationary Operational Environmental Satellite.

GOI

Government of Israel.

GOJ

Government of Japan.

GOSG

General Officer Steering Group.

GOTS

Government Off-the-Shelf.

Government Furnished Property Property in the possession of, or directly acquired by, the Government and subsequently made available to the contractor. (See FAR 45.101.)

GP

Group.

**GPALS** 

See Global Protection Against Limited Strikes.

**GPC** 

Global Protection Center.

**GPMD** 

See General Manager Program Management Directive.

GPS

1. See Global Positioning System. 2. Global Protection System.

Graceful Degradation

A condition in which a system continues to operate, providing service in a degraded mode rather than failing completely or catastrophically.

GRASER

Gamma-Ray Amplification by Stimulated Emission of Radiation. (See Gamma-Ray Laser.)

Ground-Based Defense

Those ground-based sensor and weapon systems of BMD.

# Ground-Based Interceptor (GBI)

A kinetic energy exoatmospheric interceptor with long flyout range to provide, where possible, a multiple engagement capability for defense of the U.S. with a relatively small number of missile launch locations. It is designed to engage post-boost vehicles and/or RVs in the midcourse phase of flight. (USSPACECOM) (Successor to Exoatmospheric Reentry Vehicle Interceptor Subsystem (ERIS).) See EKV.

# Ground-Based Interceptor Experiment (GBI-X)

Designed to infuse advanced technology and promote competitive environment for GBI.

## Ground-Based Radar (GBR)

A taskable, modular, multi-function, phased-array radar that provides surveillance, tracking and engagement planning data in post-boost, midcourse, and terminal flight phases within its capabilities. It also provides target discrimination, in-flight target updates (IFTUs), and target object maps (TOMs) to interceptor vehicles. See THAAD. (USSPACECOM)

## Ground-Based Radar Terminal (GBRT)

The sensor for the NMD system. An X-band, ground-based, phased array radar capable of detecting, tracking, and providing discrimination information to a ground-based interceptor.

## Ground-based Surveillance and Tracking System (GSTS)

A fast-response rocket-launched sensor which can support the SDS midcourse sensor suite by employing multiple Long Wavelength Infrared (LWIR) wavebands and a visible waveband sensor to provide tracking and discrimination of potentially lethal targets.

#### Ground Entry Point (GEP)

OBSOLETE. GEPs provide the communications interfaces between the SDS space orbital/sub-orbital elements and the C<sup>2</sup>E. See IFICS.

## Ground Mobile Regional Operations Center (GMROC)

Transportable ground segment of the Regional Operations Center.

#### **Ground Zero**

The point on the surface of the earth at, or vertically below or above, the center of a planned or actual nuclear detonation.

**GSE** 

1. Ground Support Equipment. 2. Government Support Equipment.

**GSFC** 

Goddard Space Flight Center, Greenbelt, MD.

**GSM** 

Ground Station Module.

GSO

See Geostationary Orbit.

**GSR** 

Ground Station Radar.

**GSTS** 

OBSOLETE. See Ground-based Surveillance and Tracking System.

GSTS(F)

GSTS Farm.

**GTA** 

Ground Test Accelerator.

**GTF** 

Guided Test Flights.

GTM

Global Track Manager.

**GTSF** 

Guidance Test and Simulation Facility (PATRIOT), Huntsville, AL.

GTV

Guided Test Vehicle.

Guidance

1. Direction, altitude control, and navigation (where appropriate) of sensors or interceptor vehicles. 2. The entire process by which target intelligence information received by a guided missile is used to effect proper flight control to cause timely direction changes for effective target interception.

Guidance Enhanced Missile (GEM) A companion program to PATRIOT PAC-2 which includes enhancements to the radar to increase intercept range and performance.

Guidance System (Missile)

A system which evaluates flight information, correlates it with target data, determines the desired flight path of the missile, and communicates the necessary commands to the missile flight control system.

**Guided Missile** 

An unmanned vehicle moving above the surface of the earth, whose trajectory or flight path is capable of being altered by an external or internal mechanism.

**GVSC** 

Generic VHSIC (Very High Speed Integrated Circuit) Spaceborne Computer.

GWEN

Ground Wave Emergency Network.

HABE

High Altitude Balloon Experiment.

HADS

High Altitude Defense System.

HALE UAV

High Altitude Long Endurance Unmanned Aerial Vehicle.

Half-Value

Thickness (HVT)

The thickness of a given material which will absorb half the gamma radiation incident upon it. This thickness is inversely proportional to its density and also

depends on the energy of the gamma rays.

**HALO** 

High Altitude Observatory.

Handoff

This occurs when information on positions, velocities and tracks are given by one sensor or system to another and the first sensor or system continues to track the objects.

Handover

This occurs when information is passed on to another sensor or system in which the first does not continue to track.

William the met deed het delle

H&S

See Health and Status.

HAP

High Altitude Probe.

Hard Kill (HK)

Destruction of a target in such a way as to produce unambiguous visible

evidence of its neutralization.

Hardening

Design and manufacturing process and other measures which may be employed to render military assets less vulnerable.

Hardness

A property of a target; measured by the power needed per unit area to destroy the target. A hard target is more difficult to kill than a soft target.

Hardware-in-the-Loop (HWIL) Tests in which BM/C<sup>3</sup> computer and communication test systems will be in communication with some of the hardware test facilities developed for other BMD technology programs.

**Hardware Security** 

Computer equipment features or devices used in an ADP system to preclude unauthorized access to data or system resources.

HARM

High Speed Anti-Radiation Missile.

HATMD

High-Altitude Theater Missile Defense. (U.S. Army)

HAWK

See Homing All-the-Way Killer.

**HCT** 

See Mercury Cadmium Telluride.

HE

1. High Explosive. 2. High Energy.

Health and Status

(H&S)

Health and Status pertains to a unit's ability to assess the conditions of its subsystem functions. The term H&S is used for units in remote locations, such as satellites, where ground controls must interface with BITE to determine operational status of the satellite and its equipment.

**Heavy Replicas** 

(HREPS)

Decoys which by virtue of shape, size, and mass, closely approximate an RV's signature. HREPS have significant off- load penalty.

HEDI

OBSOLETE. See High Endoatmospheric Defense Interceptor.

HEDR

High Endoatmospheric Defense Radar.

HEDS

High Endoatmospheric Defense System.

HEI

High Endoatmospheric Interceptor.

HEL

High Energy Laser.

HELKS

High Energy Laser Kill System.

HELSTF

High Energy Laser Systems Test Facility.

HELWS

High Energy Laser Weapon System.

HEMP

High Altitude Electromagnetic Pulse.

HEMTT

Heavy Expanded Mobility Tactical Truck (US Army prime mover).

Hen House

A Soviet area defense radar used as a component of the Moscow ABM system that provides VHF coverage of space to monitor orbiting satellites and early warning of ICBMs launched from the U.S.

HEO

See High Earth Orbit.

HERA

An improved surrogate TBM test target.

HESP

High Efficiency Solar Panel.

**HERO** 

Hazards of Electromagnetic Radiation to Ordnance (SM-2 Bk IVA).

HF

1. High Frequency. 2. Hydrogen fluoride.

HF/DF

1. High Frequency/Direction Finding. 2. Hydrogen Fluoride/Deuterium Fluoride. (Chemicals used in IR chemical lasers).

HFE

Human Factors Engineering.

**HgCdTe** 

Mercury Cadmium Telluride.

HIBREL

High Brightness Relay.

HIC

See Human-in-Control.

HIDACZ

High Density Aerospace Control Zone.

High Earth Orbit (HEO)

An orbit about the earth at an altitude greater than 3,000 nautical miles (about 5,600 kilometers).

High

Endoatmosphere

That portion of the earth's atmosphere, generally above 40 km altitude.

High

Endoatmospheric Defense

Interceptor (HEDI)

OBSOLETE. Interceptor concept designed to engage RVs within the (upper or high endo) atmosphere. (Predecessor to Endo-Exoatmospheric Interceptor (E<sup>2</sup>|).)

High Density
Aerospace Control
Zone (HIDACZ)

Airspace designated in an airspace control plan or airspace control order, in which there is a concentrated employment of various weapons and users. A HIDACZ has defined dimensions, that usually coincide with geographical features or navigational aides. Access to a HIDACZ is normally controlled by the maneuver commander. The maneuver commander can also direct a more restrictive weapons status within the HIDACZ.

Higher Authority Interface

Policy, strategy, doctrine, readiness conditions, and rules of engagement from higher authorities for use by the defense system in conducting system operations including specific orders specifying actions such as testing, defense enabling, pre-delegation of authority, etc. Also the reporting of situation assessment and system readiness to higher authority.

High Order Language (HOL) A programming language that requires little knowledge of the computer on which a program will run, can be translated into several different machine languages, allows symbolic naming of operations and addresses, provides features designed to facilitate expression of data structures and program logic, and usually results in several machine instructions for each program statement.

HIL

Human In-the-Loop.

HIMAD

High to Medium Altitude Air Defense.

HIMEZ

High Altitude Missile Engagement Zone.

HIP

Hot Isostatic Processing.

HIRAM

High Resolution Infrared Auroral Measurements.

HK

See Hard Kill.

HKV

Hit to Kill Vehicle.

**HLLV** 

Heavy Lift Launch Vehicle.

HOE

OBSOLETE. Homing Overlay Experiment. (Predecessor program to

Exoatmospheric Reentry Vehicle Interceptor Subsystem (ERIS).)

HOL

See High Order Language.

Homing All-the-Way Killer (HAWK) 1. Upgrades to the HAWK interceptor and radar system to provide the Marine Corps with a mobile point theater ballistic missile defense capability. 2. A mobile air defense artillery, surface-to-air missile system that provides non-nuclear, low to medium altitude air defense coverage for ground forces. Designated as MIM-23.

**Homing Device** 

A device, mounted on a missile, to aid its guidance to a target. The homing device uses sensors to detect the position of, or to help predict the future position of a target, and then directs the missile to intercept it. The homing device usually provides frequent target position updates during the flight of the missile.

**Homing Guidance** 

A system by which a missile steers itself towards a target by means of a selfcontained mechanism which is activated by some distinguishing characteristics of the target, such as an infrared signature.

HOMS

Homing Overlay Mission Simulation.

HOST

Hardened Optical Sensor Testbed.

Hostile Environment Those environments that result from a BMD system engagement of an enemy threat or collateral conditions resulting from deliberate hostilities. Hostile environment categories currently applicable to National Missile Defense are Nuclear, Battle Debris, and Electronic Warfare.

Host Installation

A designated DoD facility that provides non peculiar SDS support to SDS elements.

**Hostile Track** 

The classification assigned to a track that, based upon established criteria, is determined to be an enemy threat.

**Host Interface** 

The interface between a communications processor and a host computer.

Host Nation Support Civil and/or military assistance rendered by a nation to foreign forces within its territory during peacetime, crisis or emergencies, or war based on agreements concluded between nations.

HPG

Homopolar Generator.

HPI

High Power Illuminator (Hawk).

HPM

High Power Microwave.

HREPS

See Heavy Replicas.

HSI

See Human Systems Integration.

HTK

Hit-to-Kill.

HTS

1. High Temperature Superconducting. 2. Hawaii Tracking Station.

HUD

Heads Up Display.

#### **Human Factors**

A body of scientific facts about human characteristics. The term covers all biomedical and psychosocial considerations; it includes, but is not limited to, principles and applications in the areas of human engineering, personnel selection, training, life support, job performance aids, and human performance evaluation.

# Human Factors Engineering

The design of man-made devices, systems, and environments to enhance their use by people. Also called human engineering, human factors, and ergonomics.

#### **Human-in-Control**

Human-in-Control provides for the positive control of automated system processes. This is accomplished by requiring human action to provide essential high-level commands such as initiate, terminate, and interrupt. With regards to BMD, 10 USC 2431, Section 224 states that: "No agency of the Federal Government may plan for, fund, or otherwise support the development of command and control systems for strategic defense in the boost or post-boost phase against ballistic missile threats that would permit such strategic defenses to initiate the directing of damaging or lethal fire except by affirmative human decision at an appropriate level of authority." (USSPACECOM)

## Human Intelligence (HUMINT)

A category of intelligence derived from information collected and provided by human sources.

# Human Systems Integration

The human considerations (human factors engineering, manpower, personnel, training, and safety and health hazards) that are integrated into the design effort for the defense system to improve total system performance and reduce costs of ownership by focusing attention on the capabilities and limitations of the soldier, sailor, airman, or Marine.

HUMINT

See Human Intelligence.

**HVAA** 

High Value Airborne Assets.

HVG

See Hypervelocity Gun.

HVL

Hypervelocity Launcher (Gun).

**HVM** 

See Hypervelocity Missile.

**HVT** 

See Half-Value Thickness.

HWCI

Hardware Configuration Item.

HWIL

See Hardware-in-the-Loop.

Hypervelocity Gun (HVG) A gun that can accelerate projectiles to 5 km per second or more; for example, an electromagnetic or rail gun.

Hypervelocity Missile (HVM) A missile that can operate at a velocity greater than 4 km per second.

**HYWAYS** 

Hybrids with Advanced Yields for Surveillance.

1/0

Input/Output.

**I&T** 

Integration and Test.

I&W

Indications and Warning.

IA

Information Architecture.

IACF

Industrial College of the Armed Forces.

IADS

Integrated Air Defense System.

IAT

Integrated Assembly Test.

T&AI

Installation, assembly, and test.

IATACS

Improved Army Tactical Communications System.

IAW

In Accordance With.

IBC

Impurity Band Conduction.

IBID

Integrated BMC<sup>3</sup> Infrastructure Demonstration

IBPA

Industrial Base/Producibility Analysis.

IBSS

Infrared Background Signature Survey.

IC

1. Intelligence Community. 2. Integrated Circuit.

ICAO

International Civil Aviation Organization.

ICBM

See Intercontinental Ballistic Missile.

ICC

Information and Coordination Central (PATRIOT).

ICD

Interface Control Document/Drawing.

ICE

See Independent Cost Estimate.

**ICEDEFFOR** 

United States Forces Iceland.

ICP

Interface Change Proposal.

ICR

See Integrated Contracting Report.

ICU

Interface Control Unit.

**ICWG** 

Interface Control Working Group.

ID

1. Interactive Discrimination. 2. Identification.

IDA Institute for Defense Analysis.

IDB Integrated Data Base.

IDD Interface Design Document.

IDEA Integrated Dose Environmental Analysis.

IDIP Integrated Development and Initial Production.

IDR Initial Design Review.

IDS 1. Interface Design Standards. 2. Intrusion Detection System.

IED Intrinsic Event Discrimination.

IEMP Induced Electromagnetic Pulse.

IEP Integrated Evaluation Plan.

IER See Independent Evaluation Report.

IFF Identification, Friend or Foe.

IFHV In-Flight Homing View.

IFICS In-Flight Interceptor Communications System. IFICS provides the

communications link between the ground and the space based NMD assets. The generic term IFICS replaces the obsolete design specific communications

system term GEP.

IFOG Interferometric Fiber Optic Gyroscope.

IFOV Instantaneous Field of View.

IFT Integrated Flight Test.

IFTU See In-Flight Target Update.

IGEMP Internally Generated Electromagnetic Pulse.

IGSM Interim Ground Station Module (JSTARS).

IGT Integrated Ground Test.

IGU Inertial Guidance Unit.

II See Impulse Intensity.

IIP Interoperability Improvement Program.

IIR 1. Intelligence Information Report. 2. Imaging Infrared.

Ilities

The operational and support requirements a program must address (e.g., availability, vulnerability, producibility, reliability, maintainability, logistics supportability, etc.).

Illumination

Non-interfering impingement of electromagnetic energy on Red, Blue, or Gray satellites and Red ballistic missiles in test.

ILS

See Integrated Logistics Support.

ILSP

See Integrated Logistics Support Plan.

IM

See Information Management.

**Imagery** 

Collectively, the representations or objects reproduced electronically or by optical means on film, electronic display devices, or other media.

Imagery Intelligence (IMINT) Intelligence derived from the exploitation of collection by visual photography, infrared sensors, lasers, electro-optics, and radar sensors (such as synthetic aperture radar) wherein images of objects are reproduced optically or electronically on film, electronic display devices, or other media.

**Imaging** 

The process of obtaining a high quality image of an object.

IMINT

See Imagery Intelligence.

IMIP

Industrial Modernization Incentives Program.

Immediate Kill Mode A kill mode in which the target is immediately catastrophically destroyed by impact with the KV or KED.

Impact Point Prediction (IPP) Prediction of the point on the earth's surface where a specific RV will impact, usually specified in terms of the circular error probable. The estimate includes the perturbing effects of the atmosphere and resultant uncertainties.

Implicit
Coordination

Many independent battle managers (computers) use the same algorithms to derive a common calculated result. Decisions resulting from these calculations will be identical even though the calculated results may not be identical. Decisions or results are not communicated between Battle Managers.

**I**mpulse

A mechanical jolt delivered to an object. Physically, impulse is a force applied for a period of time, and the System Internationale Unit of impulse is the newton-second (abbreviated N-s). (See Impulse Intensity.)

Impulse Intensity (II) Mechanical impulse per unit area. The System Internationale unit of impulse intensity is the pascal-second (abbreviated Pa-s). A conventionally used unit of impulse intensity is the "tap", which is one dyne-second per square centimeter; hence, 1 tap = 0.1 Pa-s.

Impulse Kill

The destruction of a target, using directed energy, by ablative shock. The intensity of directed energy may be so great that the surface of the target violently and rapidly boils off delivering a mechanical shock wave to the rest of the target and causing structural failure.

IMU

Inertial Measurement Unit.

IN

1. Air Force component intelligence officer (staff). 2. Instructor. 3. Impulse Noise.

#### Inclination

The inclination of an orbit is the (dihedral) angle between the plane containing the orbit and the plane containing the earth's equator. An equatorial orbit has an inclination of 0° for a satellite traveling eastward or 180° for a satellite traveling westward. An orbit having an inclination between 0° and 90° and in which a satellite is traveling generally eastward is called a prograde orbit. An orbit having an inclination of 90° passes above the north and south poles and is called a polar orbit. An orbit having an inclination of more than 90° is called a retrograde orbit.

# Incremental Funding

The provision (or recording) of budgetary resources for a program or project based on obligations estimated to be incurred within a fiscal year when such budgetary resources will cover only a portion of the obligations to be incurred in completing the program or project as programmed. This differs from full funding, where budgetary resources are provided or recorded for the total estimated obligations for a program or a project in the initial year of funding.

#### Identification Friend or Foe (IFF)

A system using electromagnetic transmissions to which equipment carried by friendly forces automatically responds, fro example by emitting pulses, thereby distinguishing themselves from enemy forces.

#### Imagery Correlation

The mutual relationship between the different signatures on imagery from different types of sensors in terms of position and the physical characteristics signified.

#### Independent Cost Analysis

An analysis of program cost estimates conducted by an impartial body disassociated from the management of the program. (See Title 10, United States Code, Section 2434, "Independent Cost Estimates; Operational Manpower Requirements.")

# Independent Cost Estimate (ICE)

A cost estimate prepared by an impartial body outside the chain of authority responsible for acquiring or using the goods or services.

#### Independent Evaluation Report (IER)

Documents the independent evaluation of the system and is based on test data, reports, studies, and simulations. The IER contains the independent evaluator's assessment of key issues, supporting analyses, major findings, and a position on the future capability of the system to fulfill approved requirements. The IER is provided to the DAB to support the MS III decision production decision. An IER may also be used to support LRIP decisions. (U.S. Army)

#### Independent Research and Development (IR&D)

Effort by industry that is not sponsored by, or required in performance of, a contract and which consists of projects falling within the areas of (1) basic and applied research, (2) development, and (3) systems and other concept formulation studies. Also, discretionary funds which industry can allocate to projects. (See FAR 31.001.)

Independent Verification and Validation (IV&V) Verification and validation performed by a contractor or Government agency that is not responsible for developing the product or performing the activity being evaluated. IV&V is an activity that is conducted separately from the software development activities.

Indium Antimonide Infrared sensing material.

Individual
Acceptance Test

A test of predetermined critical items to verify their operational characteristics prior to assembly into subsystems. Waivers to this requirement, such as using the end item acceptance tests, are not recommended as a production expediency.

Induced Environments

Induced environments are defined at the system level as the disturbances in the natural environments caused by BMD system influences on other BMD assets (Self-Induced..e.g., GBR radar energy impacting and effecting a GBI in flight) or the influence of other systems external to BMD on BMD assets (Externally-Induced..e.g., high power electric line electromagnetic field effects on C<sup>2</sup>E electronic equipment).

Induced Radioactivity Radioactivity produced in certain materials as a result of nuclear reactions, particularly the capture of neutrons, which are accompanied by the formation of unstable (radioactive) nuclei. In a nuclear explosion, neutrons can induce radioactivity in the weapon materials, as well as in the surroundings (e.g., by interaction with nitrogen in the air and with sodium, manganese, aluminum, and silicon in soil and sea water).

Industrial Resource Analysis (IRA) A quick-turnaround or a detailed analysis of industrial and/or specific factory capabilities to determine the availability of production resources required to support SDS. These resources include capital (including machine tools and special tooling/test equipment), materiel, and manpower needed to meet the range of SDS requirements. IRA includes the results of feasibility studies, producibility analyses, and technology assessments. Shortfalls discovered in IRAs are assessed for risk levels, based on the reasons for the risks, and become issues listed in the BMDO Producibility Programming and Issues Resolution Strategies (PPIRS) document.

Inertial Guidance A guidance system designed to project a missile over a predetermined path, wherein the path of the missile is adjusted after launching by devices wholly within the missile and independent of outside information. The system measures and converts accelerations experienced to distance traveled in a certain direction.

Inertial Measurement Unit (IMU) A guidance mechanism designed to project a missile over a predetermined path, wherein the path of the missile is adjusted after launching by devices wholly within the missile and independent of outside information. The unit measures and converts accelerations experienced to distance traveled in a certain direction.

INETS

Integrated Effects Tests for Survivability.

#### In-Flight Target Update

A data report which contains updated, predict ahead target position, time, and velocity for interceptor weapons to use in making midcourse correction. (USSPACECOM)

# Information Architecture (IA)

A description of the information that is needed to support command and control decision making and battle management, where it comes from, the processing that must be performed to provide it, and the resulting behavior. The description provides the invariant framework for interoperability, operational and design flexibility, coping with the unexpected, extensibility, and reusability.

# Information Resources Management

The planning, budgeting, organizing, directing, training, promoting, controlling, and management activities associated with the burden, collection, creation, use, and dissemination of information by agencies and includes the management of information and related resources, such as FIP resources.

# Information Security (INFOSEC)

Those measures and administrative procedures for identifying, controlling, and protecting against unauthorized disclosure of classified information or unclassified controlled information, which includes export-controlled technical data and sensitive information. Such measures and procedures are concerned with security education and training, assignment of proper classifications, downgrading and declassification, safeguarding, and monitoring.

#### Infrared (IR)

Electromagnetic radiations of wavelength between the longest visible red  $(7,000 \text{ Angstroms or } 7 \times 10E4 \text{ millimeter})$  and about 1 millimeter. (See Electromagnetic Radiation.)

# Infrared (IR) Electro-Optics

Technologies/techniques employed by optical sensors in the wavelength spectrum slightly longer than visible but shorter than radio.

#### Infrared Imagery

That imagery produced as a result of sensing electromagnetic radiations emitted or reflected from a given target surface in the infrared position of the electromagnetic spectrum.

#### Infrared Sensor

A sensor designed to detect the electromagnetic radiation in the wavelength region of 1 to 40 microns.

# Initial Operational Capability (IOC)

The first attainment of the capability to employ effectively a weapon, item of equipment, or system of approved specific characteristics, and which is manned or operated by a trained, equipped, and supported military unit or force.

# Initial Operational Test and Evaluation (IOT&E)

All operational test and evaluation conducted on production or production representative articles, to support the decision to proceed beyond low-rate initial production. It is conducted to provide a valid estimate of expected system operational effectiveness and operational suitability.

#### In-Line

1. A unit which is operational, not dormant, and is participating with on-going functions. See On-line.

# In-Process Review (IPR)

Review of a project or program at critical points to evaluate status and make recommendations to the decision authority; also called Interim Program Review.

INS

1. Internal Navigation System. 2. Insert code.

#### INSCOM

U.S. Army Intelligence and Security Command.

#### InSb

See Indium Antimonide.

#### Integrated Contracting Report (ICR)

A quarterly report of BMD contracts which defines the roles, relationships, and interfaces among contracts, contractors, and programs, and provides a mechanism for strengthening BMDO contracting oversight (formerly known as Integrated Contracting Plan or ICP).

# Integrated Fire Control System

A system which performs the functions of target acquisition, tracking, data computation, and engagement control, primarily using electronic means assisted by electromechanical devices.

#### Integrated Logistics Support (ILS)

1. A disciplined, unified, and iterative approach to the management and technical activities necessary to integrate support considerations into system and equipment design; develop support requirements that are related consistently to readiness objectives, to design, and to each other; acquire the required support; and provide the required support during the operational phase at minimum cost. 2. A composite of all the support considerations necessary to assure the effective and economical support of a system for its life cycle. It is an integral part of all other aspects of system acquisition and operation.

#### Integrated Logistics Support (ILS) Elements

- Maintenance Planning. The process conducted to evolve and establish maintenance concepts and requirements for the lifetime of a materiel system.
- Manpower and Personnel. The identification and acquisition of military and civilian personnel with the skills and grades required to operate and support a material system over its lifetime at peacetime and wartime rates.
- Supply Support. All management actions, procedures, and techniques
  used to determine requirements to acquire, catalog, receive, store, transfer,
  issue, and dispose of secondary items. This includes provisioning for initial
  support as well as replenishment supply support.
- 4. <u>Support Equipment</u>. All equipment (mobile or fixed) required to support the operation and maintenance of a materiel system. This includes associated multi-use end items, ground-handling and maintenance equipment, tools, meteorology and calibration equipment, test equipment, and automatic test equipment. It includes the acquisition of logistics support for the support and test equipment itself.
- 5. <u>Technical Data.</u> Recorded information regardless of form or character (such as manuals and drawings) of a scientific or technical nature. Computer programs and related software are not technical data; documentation of computer programs and related software are. Also excluded are financial data or other information related to contract administration.
- 6. Training and Training Support. The processes, procedures, techniques, training devices, and equipment used to train civilian and active duty and reserve military personnel to operate and support a materiel system. This includes individual and crew training; new equipment training; initial, formal, and on-the-job training; and logistic support planning for training equipment and training device acquisitions and installations.
- Computer Resources Support. The facilities, hardware, software, documentation, manpower, and personnel needed to operate and support embedded computer systems.

- 8. <u>Facilities</u>. The permanent, or semi-permanent, or temporary real property assets required to support the material system, including conducting studies to define types of facilities or facility improvements, locations, space needs, utilities, environmental requirements, real estate requirements, and equipment.
- 9. Packaging. Handling. Storage. and Transportation. The resources, processes, procedures, design considerations, and methods to ensure that all system, equipment, and support items are preserved, packaged, handled, and transported properly, including environmental considerations, equipment preservation requirements for short- and long-term storage, and transportability.
- 10. <u>Design Interface</u>. The relationship of logistics-related design parameters, such as reliability and maintainability, to readiness and support resource requirements. These logistics-related design parameters are expressed in operational terms rather than inherent values and specifically related to system readiness objectives and support costs of the material system.

#### Integrated Logistics Support Plan (ILSP)

The formal planning document for logistics support. It is kept current through the program life and sets forth the plan for operational support, provides a detailed ILS program to fit with the overall program, provides decision-making bodies with necessary ILS information to make sound decisions in system development and production, and provides the basis for ILS procurement packages/specifications RFPs, SOWs, source selection evaluation, terms and conditions, and CDRLs.

## Integrated Priority List

A list of a combatant commander's highest priority requirements, prioritized across Service and functional lines. The list defines shortfalls in key programs that, in the judgment of the combatant commander, adversely affect the capability of the his forces to accomplish their assigned mission. The integrated priority list provides the combatant commander's recommendations for programming funds in the Planning, Programming, and Budgeting System process. Also called IPL.

## Integrated Program Assessment (IPA)

A document prepared by the supporting staff or review forum of the milestone decision authority to support Milestone I, II, III, and IV reviews. It provides an independent assessment of a program's status and readiness to proceed into the next phase of the acquisition cycle.

## Integrated Program Summary (IPS)

A DoD Component document prepared and submitted to the milestone decision authority in support of Milestone I, II, III, and IV reviews. It succinctly highlights the status of a program and its readiness to proceed into the next phase of the acquisition cycle.

# Integrated Tactical Warning and Attack Assessment (ITW/AA)

ITW/AA is the integration of ballistic missile warning, space warning, and atmospheric warning with intelligence information for synthesis of all attack warning information, strategic and tactical.

#### Integrated Warfare

The conduct of a military operation in any combat environment wherein opposing forces employ non-conventional weapons in combination with conventional weapons.

#### Integration

1. The combination of separate systems, capabilities, functions, etc. in such a way that individual elements can operate singly or in concert without adversely affecting other elements. (USSPACECOM) 2. Act of putting together as the final end item various components of a system.

#### Intelligence

1. The product, resulting from the collection, evaluation, analysis, integration and interpretation of all available information concerning foreign countries or areas. 2. Information and knowledge about an adversary obtained through observation, investigation, analysis, or understanding.

#### Intelligence Indicators

Classified or unclassified actions or information obtainable by an adversary that, when properly interpreted, can provide information about friendly capabilities and intentions.

#### Intelligence Operations Center (IOC)

An organization term for all intelligence activities in Cheyenne Mountain AFB. The IOC includes the Consolidated Intelligence Watch (CIW), Operational Intelligence Elements, and the Joint SPACECOM Intelligence Center (JSIC) Cheyenne Mountain Node (JCN).

#### Intelligence Preparation of the Battlespace

An analytical methodology employed to reduce uncertainties concerning the enemy, environment, and terrain for all types of operations. Intelligence preparation of the battlespace builds an extensive data base for each potential area in which a unit may be required to operate. The data base is then analyzed in detail to determine the impact of the enemy, environment, and terrain on operations and presents it in graphic form. Intelligence preparation of the battlespace is a continuing process. Also called IPB.

# Intelligence Report (INTREP)

A specific report of information usually on a single item, made at any level of command in tactical operations and disseminated as rapidly as possible in keeping with the timeliness of the information.

#### Intelligence Threat

An identification of known and potential adversary capabilities to collect and exploit information from a given or similar operation.

#### Intensity

The amount of energy of any radiation incident upon (or flowing through) unit area, perpendicular to the radiation beam, in unit time. The intensity of thermal radiation is generally expressed in calories per square centimeter per second falling on a given surface at any specific instant. As applied to nuclear radiation, the term intensity is sometimes used, rather loosely, to express the exposure (or dose) rate at a given location.

# Interactive Responses

Interactive response data on tracked objects to assist in their classification.

#### Interceptor Cluster

A group of objects which are within divert capability of a deployed interceptor.

#### Interceptor Track

A function or ability of a sensor to accurately detail an interceptor's position and velocity in three dimensions.

# Interceptor Track Range (Max)

The maximum range at which a sensor can perform the interceptor track function on a single interceptor in a normal (non-man-made) environment.

#### Interchangeability

A condition which exists when two or more items possess such functional and physical characteristics as to be equivalent in performance and durability, and are capable of being exchanged one for the other without alteration of the items themselves or of adjoining items, except for adjustment, and without selection for fit and performance.

#### Interconnection

The linking together of interoperable systems.

# Intercontinental Ballistic Missile (ICBM)

A ballistic missile with a range from about 3,000 to 8,000 nautical miles. The term ICBM is used only for land-based systems to differentiate them from submarine-launched ballistic missiles. (See SLBM.)

#### Interface

1. A shared boundary defined by common physical interconnection characteristics, signal characteristics, and meanings of interchanged signals. 2. A device or equipment making possible interoperation between two systems, e.g., a hardware component or a common storage register. 3. A shared logical boundary between two software components. 4. A common boundary or connection between persons, or between systems, or between persons and systems.

# Interface Control Document (ICD)

The technical documentation, generated by each party to an interface control agreement, that presents that party's interface and interfacing requirements. The ICD may be in the form of a drawing or a specification.

#### Interface Requirements Document (IRD)

A document that sets forth the interface requirements for a system or system component.

#### Interference

The phenomenon of two or more waves of the same frequency combining to form a wave in which the disturbance at any point is the algebraic or vector sum of the disturbances due to the interfering waves at that point.

#### Intermediate Range Ballistic Missile (IRBM)

A ballistic missile having a range capability of 1,500 to 3,000 nautical miles.

## International Cooperative Logistics

Cooperation and mutual support in the field of logistics through the coordination of policies, plans, procedures, development activities, and the common supply and exchange of goods and services arranged on the basis of bilateral and multilateral agreements with appropriate cost reimbursement provisions.

# International Logistics

The negotiating, planning, and implementation of supporting logistics arrangements between nations, their forces, and agencies. It includes furnishing logistic support to, or receiving logistic support from, one or more friendly foreign governments, international organizations, or military forces, with or without reimbursement. It also includes planning and actions related to the intermeshing of a significant element, activity, or component of the military logistics systems or procedures of the United States with those of one or more foreign governments, international organizations, or military forces on a temporary or permanent basis. It includes planning and actions related to the utilization of United States logistics policies, systems, and/or procedures to meet requirements of one or more foreign governments, international organizations, or forces.

# International Logistic Support

The provision of military logistic support by one participating nation to one or more participating nations, either with or without reimbursement.

#### Interoperability

The ability of systems, units, or forces to provide services to or accept services from other systems, units, or forces and to use the services so exchanged to operate effectively together.

#### **Intruder Operation**

An offensive operation by day or night over enemy territory with the primary object of destroying enemy aircraft in the vicinity of their bases.

# Inventory Control Point

An organizational unit or activity within a DoD supply system that is assigned the primary responsibility for the materiel management of a group or items either for a particular Service or for the DoD as a whole. Materiel inventory management includes cataloging direction, requirements computation, procurement direction, distribution management, disposal direction, and, generally, rebuild direction.

## Inverse Square Law

The law that states when thermal or nuclear radiation is uniformly emitted from a point source, the amount received per unit area at any given distance from the source, assuming no absorption, is inversely proportional to the square of that distance.

#### Inverse Synthetic Aperture Radar (ISAR)

A type of radar similar to a synthetic aperture radar, which uses information from the motion of targets to provide high resolution.

#### IOC

- 1. See Initial Operational Capability. 2. See Intelligence Operations Center.
- 3. Integrated Optics Chip.

#### Ionization

The process of producing ions by the removal of electrons from, or the addition of electrons to atoms or molecules.

#### **Ionizing Radiation**

Electromagnetic radiation (gamma rays, x-rays, extreme ultraviolet (EUV)) or particulate radiation (alpha particles, beta particles, neutrons, etc.) capable of producing ions, e.g., electrically charged particles, directly or indirectly, in its passage through matter. (See Nuclear Radiation.)

#### Ionosphere

The region of the atmosphere, extending from roughly 70 to 500 kilometers altitude, in which ions and free electrons exist in sufficient quantities to reflect electromagnetic waves.

IOU

Input/Output Unit.

IOT&E

See Initial Operational Test and Evaluation.

ΙP

1. Instructor Pilot. 2. Initial Point. 3. Initial Position.

IPA

See Integrated Program Assessment.

IPB

Intelligence Preparation of the Battlefield or Battlespace.

IPL

Integrated Priority List.

IPP

1. See Impact Point Prediction. 2. Industrial Preparedness Program.

IPPD

Integrated Process and Product Development.

IPR

1. See In-Progress Review. (Also called Interim Program Review).

IPS

See Integrated Program Summary.

IPSRU

Inertial Pseudo-Star Reference Unit.

IPT

1. Integrated Product Team. 2. Integrated Process Team. 3. Integrated Planning Team.

IR

1. See Infrared. 2. Information Requirement. 3. Incident Report. 4. Information Rate.

IRA

See Industrial Resource Analysis.

IR&D

Independent Research and Development. (Also called IRAD).

IRAS

Infrared Astronomical Satellite.

IRBM

See Intermediate Range Ballistic Missile.

IRBS

1. Infrared Background Sensor. 2. Intermediate-Range Booster System.

IRD

See Interface Requirements Document.

**IR Electro-Optics** 

Technologies/techniques employed by optical sensors in the wavelength spectrum slightly longer than visible but shorter than radio.

IRFPA

Infrared Focal Plane Array.

IRINT

Infrared Intelligence.

IRIS

Infrared Instrumentation System.

IRR

Internal Requirements Review.

IRS

Interface Requirements Review.

**IRSS** 

Infrared Sensor System (EAGLE).

IRST

Infrared Search and Track.

IS

See Information System.

ISA

Interservice Agreement.

IS&T

1. Invite, Show and Test. 2. Innovative Science and Technology.

**ISAR** 

See Inverse Synthetic Aperture Radar.

ISE

Integrated SATKA Experiments.

ISO

International Standards Organization.

Isotropic

Independent of direction; referring to the radiation of energy, it means "with

equal intensity in all directions" (e.g., omnidirectional).

Isotropic

**Nuclear Weapon** 

A nuclear explosive which radiates x-rays and other forms of radiation with approximately equal intensity in all directions. The term "isotropic" is used to

distinguish them from nuclear directed energy weapons.

ISM

Industrial Security Manual.

ISP

Integrated Support Plan.

**Issue Cycle** 

A process followed during OSD review of the POM. It begins in early June and

extends into July.

**Issue Papers** 

OSD documents defining issues raised during review of the POM.

IST

1. Innovative Science and Technology. 2. Integrated System Test.

ISTC

Integrated System Test Capability.

ISV

Interceptor Sensor Vehicle.

ISWG

Integration Support Working Group.

**ITAR** 

International Traffic in Arms Regulations.

ITB

1. Integrated Test Bed. 2. Israeli Test Bed.

item Manager

An individual within the organization of an inventory control point or other such organization assigned management responsibilities for one or more specific

items of materiel.

**ITERS** 

Improved Tactical Events Reporting System.

ITL

Integrate, Transfer, Launch

ITP

Integrated Test Plan.

1. Integrated Technology Validation. 2. Instrumented Test Vehicle

ITW/AA See Integrated Tactical Warning and Attack Assessment.

IV&V See Independent Verification and Validation.

IWCD Integrated Wavefront Control Demonstration.

IWG Interagency Working Group.

IWSM Integrated weapons system management.

J-SEAD

See Joint Suppression of Enemy Air Defenses.

JAAT

Joint Air Attack Team.

**JADO** 

Joint Air Defense Operations.

**Jammers** 

Radio transmitters accompanying attacking RVs and tuned to broadcast at the same frequency as a defensive radar. The broadcasts add "noise" to the signals reflected from the RVs and received by the radar. Susceptibility to jamming generally decreases with increasing radar frequency, with decreasing

altitude, and with increasing radar power.

JAO

Joint Area of Operations.

**JDA** 

Japan Defense Agency.

JDC

1. Joint Doctrine Center. 2. Joint Deployment Community.

JDN

Joint Data Net.

JEM

Joint Exercise Manual.

**JETTA** 

Joint Environment for Testing, Training, and Analysis.

**JEWC** 

See Joint Electronic Warfare Center.

JEZ

Joint Engagement Zone.

**JFACC** 

Joint Force Air Component Commander.

**JFC** 

Joint Force Commander.

**JFET** 

Junction Field Effect Transistor.

**JFLCC** 

Joint Force Land Component Commander.

**JFMCC** 

Joint Forces Maritime Component Commander.

**JFSOCC** 

Joint Forces Special Operations Component Commander.

JHU

Johns Hopkins University, Baltimore, MD

JHU/APL

Johns Hopkins University/Applied Physics Laboratory, Laurel, MD.

JIC

1. Joint Intelligence Center. 2. Jet Interaction Controls.

**JIEO** 

Joint Interoperability and Engineering Organization.

**JINTACCS** 

Joint Interoperabiltiy of Tactical Command and Control Systems.

JIOP

Joint Interface Operational Procedures.

JIOP-MTF

Joint Interface Operational Procedures - Message Text Forms.

JITC

Joint Interoperability Test Center.

JLC

Joint Logistics Commanders.

**JLOTS** 

Joint Logistics Over-The-Shore.

JMC

1. Joint Movement Center. 2. Joint Military Command.

**JMCIS** 

Joint Maritime Command Information System.

JMO

Joint Maritime Operations.

JOA

Joint Operations Area.

JOB

Joint Operations Board.

JOC

Joint Oversight Council.

**Joint** 

Activities, operations, organizations, etc., in which elements of more than one Service of the same nation participate. When all services are not involved, the participating Services shall be identified, e.g., Joint Army-Navy.)

**Joint Doctrine** 

Fundamental principles that guide the employment of forces of two or more Services in coordinated action toward a common objective. It will be promulgated by the Chairman of the Joint Chiefs of Staff, in coordination with the combatant commands, Services, and Joint Staff. See also Chairman, Joint Chiefs of Staff.

# Joint Doctrine Working Party

A forum to include representatives of the Services and combatant commands with the purpose of systematic addressal of joint doctrine and joint tactics, techniques, and procedures (JTTP) issues such as project proposal examination, project scope development, project validation, and lead agent recommendation. The Joint Doctrine Working Party meets under the sponsorship of the Director, Operations Plans and Interoperability.

# Joint Electronic Warfare Center (JEWC)

Electronic Security Command (ESC) team at Kelly AFB, TX, responsible for investigating and locating the cause of MIJI either against satellites or ground systems.

**Joint Force** 

A general term applied to a force composed of significant elements, assigned or attached, of the Army, the Navy or Marine Corps, and the Air Force, or two or more of these Services, operating under a single commander authorized to exercise operational control. See also Joint Force Commander.

Joint Force Air Component Commander (JFACC) The commander within a unified command, subordinate unified command, or joint task force responsible to the establishing commander for making recommendations on the proper employment of air forces, planning and coordinating air operations, or accomplishing such operational missions as may be assigned. The joint force air component commander is given the authority necessary to accomplish missions and tasks assigned by the establishing commander. The JFACC will normally be the commander with the preponderance of air forces and the requisite command and control capabilities.

Joint Force Commander (JFC) A general term applied to a commander authorized to exercise combatant command (command authority) or operational control over a joint force. Also called JFC.

Joint Force Land Component Commander (JFLCC) The commander within a unified command, subordinate unified command, or joint task force responsible to the establishing commander for making recommendations on the proper employment of land forces, planning and coordinating land operations, or accomplishing such operational missions as may be assigned. The joint force land component commander is given the authority necessary to accomplish missions and tasks assigned by the establishing commander. The JFLCC will normally be the commander with the preponderance of land forces and the requisite command and control capabilities.

Joint Force Maritime Component Commander (JFMCC) The commander within a unified command, subordinate unified command, or joint task force responsible to the establishing commander for making recommendations on the proper employment of maritime forces and assets, planning and coordinating maritime operations, or accomplishing such operational missions as may be assigned. The JFMCC is given the authority necessary to accomplish missions and tasks assigned by the establishing commander. The JFMCC will normally be the commander with the preponderance of maritime forces and the requisite command and control capabilities.

Joint Force Special Operations Component Commander (JFSOCC) The commander within a unified command, subordinate unified command, or joint task force responsible to the establishing commander for making recommendations on the proper employment of special operations forces and assets, planning and coordinating maritime operations, or accomplishing such operational missions as may be assigned. The JFSOCC is given the authority necessary to accomplish missions and tasks assigned by the establishing commander. The JFSOCC will normally be the commander with the preponderance of special operations forces and the requisite command and control capabilities.

Joint Operational Planning and Execution System (JOPES) A continuously evolving system that is being developed through the integration and enhancement of earlier planning and execution systems: Joint Operation Planning System and Joint Deployment System. It provides the foundation for conventional command and control by national and theater level commanders and their staffs. It is designed to satisfy their informational needs in the conduct of joint planning and operations. JOPES includes joint operation planning policies, procedures, and reporting structures supported by communications and automated data processing systems. JOPES is used to monitor, plan, and execute mobilization, deployment, employment, and sustainment activities associated with joint operations.

Joint Operating
Procedures (JOPs)

These documents identify and describe detailed procedures and interactions necessary to carry out significant aspects of a joint program. Subjects for JOPs may include Systems Engineering, Personnel Staffing, Reliability, Survivability, Vulnerability, Maintainability, Production, Management Controls and Reporting, Financial Control, Test and Evaluation, Training, Logistics Support, Procurement and Deployment. The JOPs are developed and negotiated by the Program Manger and the participating Services.

Joint Operations
Area

That area of conflict in which a joint force commander conducts military operations pursuant to an assigned mission and the administration incident to such military operations. Also called JOA.

Joint Program

Any defense acquisition system, subsystem, component, or technology program that involves formal management or funding by more than one DoD Component during any phase of a system's life-cycle.

Joint Requirements Oversight Council (JROC) A council, chaired by the Vice Chairman, Joint Chiefs of Staff, that conducts requirements analyses, determines the validity of mission needs and develops recommended joint priorities for those needs it approves, and validates performance objectives and thresholds in support of the Defense Acquisition Board. Council members include the Vice Chiefs of the Army, Navy, and Air Force, and the Assistant Commandant of the Marine Corps.

Joint SPACECOM Intelligence Center (JSIC) A USSPACECOM Intelligence Center responsible for producing operational intelligence for USSPACECOM missions and for space intelligence production for the DoD and intelligence community. Delegated Space Intelligence production includes: Space Order of Battle (OB), Space Object Identification (SOI), and Satellite Reconnaissance Advance Notices (SATRAN). Located at CMAFB.

Joint Strategic Defense Planning Staff (JOSDEPS) A special staff located at USSPACECOM Headquarters responsible for integrated strategic defense planning and for integration of strategic defensive and strategic offensive operations. The USCINCSPACE serves as Director, Joint Strategic Defense Planning Staff.

Joint Strategic Target Planning Staff (JSTPS) A JCS organization located at Offutt AFB responsible for planning, developing, coordinating, and producing the Single Integrated Operations Plans (SIOP). Also responsible for producing the National Strategic Target List (NSTL). The Commander in Chief, USSTRATCOM is also the Director, Joint Strategic Target Planning Staff.

Joint Suppression of Enemy Air Defense

A broad term that includes all suppression of enemy air defenses activities provided by one component of the joint force in support of another. Also called J-SNEAD.

Joint Tactical Information Distribution System (JTIDS) A joint service, jam-resistant, secure communications system that permits the interchange of essential tactical information between aircraft, surface vessels, and mobile or fixed-base land stations.

Joint Tactics, Techniques, and Procedures (JTTP) The actions and methods which implement joint doctrine and describe how forces will be employed in joint operations. They will be promulgated by the Chairman, Joint Chiefs of Staff, in coordination with the combatant commands, Services and Joint Staff. Also called JTTP.

Joint Test and Evaluation T&E conducted jointly by two or more DoD components for systems to be acquired by more than one component or for a component's systems which have interfaces with equipment of another component.

Joint Test and Evaluation Program An OSD program for Joint T&E, structured to evaluate or provide information on system performance, technical concepts, system requirements or improvements, systems interoperability, improving or developing testing

methodologies, or for force structure planning, doctrine, or procedures.

**JMCIS** 

Joint Maritime Command Information System (USN).

**JMEM** 

Joint Munitions Effectiveness Manual.

**JMSWG** 

1. Joint Multi-TADIL Standards Working Group. 2. Joint Interoperability

Message Standards Working Group.

JOB

Joint Oversight Board. (TMD COEA)

JOC

Joint Operations Center.

JOP

Joint Operating Procedures.

JOPES

See Joint Operational Planning and Execution System.

JOSDEPS

See Joint Strategic Defense Planning Staff.

JP

Joint Publication.

**JPL** 

Jet Propulsion Laboratory, Pasadena, CA.

JPN

Joint Planning Net.

**JPO** 

Joint Program Office.

**JPOI** 

Joint Project -- Ornate Impact

**JPON** 

Joint Project -- Optic Needle.

**JPRN** 

Joint Precision Reporting Net.

**JROC** 

See Joint Requirements Oversight Council.

**JSCP** 

Joint Strategic Capabilities Plan.

**JSIC** 

See Joint SPACECOM Intelligence Center.

**JSOC** 

Joint Special Operations Command.

**JSOR** 

Joint Services Operating Requirement.

**JSPD** 

Joint Strategic Planning Document.

JSPS

Joint Strategic Planning System.

**JSTARS** 

Joint Surveillance and Target Attack Radar System.

**JSTPS** 

See Joint Strategic Target Planning Staff.

**JTAGS** 

Joint Tactical Ground Station.

JT&E

Joint Test and Evaluation.

JTF

Joint Task Force.

**JTIDS** 

See Joint Tactical Information Distribution System.

JTL

Joint Target List.

**JTMBPO** 

Joint Theater Ballistic Missile Defense Program Office.

**JTMD** 

Joint Theater Missile Defense.

**JTOC** 

Joint Targets Oversight Council.

**JTR** 

Joint Travel Regulations.

**JTRP** 

Joint Telecommunication Resources Board.

JWAN

Joint Wide Area Net.

**JWC** 

Joint Warfare Center.

JWG

Joint Working Group.

JWID

Joint Warrior Interoperability Demonstration

KΑ

See Kill Assessment.

KBS

Knowledge Based System (UKMOD).

**KBSF** 

Knowledge Based Sensor Fusion.

KDEC

Kinetic Energy Weapon Digital Emulation Center, Huntsville, AL.

KDS

Kwajalein Discrimination System.

ΚE

See Kinetic Energy.

KED

Kill Enhancement Device.

**Keep-Out Zone** 

A volume around a space asset, which is off limits to parties not owners of the asset. Keep-out zones could be negotiated or unilaterally declared. The right to defend such a zone by force and the legality of unilaterally declared zones under the Outer Space Treaty remain to be determined.

KEI

Kinetic Energy Intercept.

KEV

Kinetic Energy Vehicle.

KEW

See Kinetic Energy Weapon.

**KEWC** 

Kinetic Energy Weapon, Chemical (propulsion).

KEWE

Kinetic Energy Weapon, Electromagnetic (propulsion).

KEWG

Kinetic Energy Weapon, Ground.

**KEWO** 

Kinetic Energy Weapon, Orbital.

Key

In cryptography, a A type of dataset used for encryption or decryption. sequence of symbols that controls the operations of encryption and decryption.

K Factor

The relative measure of a sensor's ability to distinguish one object from Theoretically (but not in practice) it is the distance between the mean locations of two observed objects given normal distributions and standard

deviations for both objects.

KHILS

Kinetic Kill Vehicle Hardware in-the-Loop Simulator, Eglin AFB, FL.

KHIT

Kinetic Kill Vehicle Hardware Integrated Test.

Kill Assessment

(KA)

An evaluation of information to determine the result of a ballistic missile/RV intercept for the purpose of providing information for defense effectiveness and

re-engagements. (USSPACECOM)

Kill Enhancement

Device

A device that improves an interceptor's lethality.

Kinematic Battlespace The planned engagement region in space of an interceptor given the sensor timeline, kinematic capabilities of the interceptor, engagement timeline, and operational constraints.

Kinetic Energy (KE)

The energy from the momentum of an object, i.e., an object in motion.

Kinetic Energy Weapon (KEW) A weapon that uses kinetic energy, or energy of motion to kill an object. Examples of weapons which use kinetic energy are a rock, a bullet, a nonexplosively armed rocket, and an electromagnetic rail gun.

Kinetic Kill Vehicle (KKV) A weapon using a non-explosive projectile moving at very high speed to destroy a target on impact. The projectile may include homing sensors and on-board rockets to improve its accuracy, or it may follow a preset trajectory (as with a shell launched from a gun).

Kinetic Kill Vehicle Integrated Technology Experiment (KITE) A series of test flights at WSMR to demonstrate HEDI technologies.

KITE

1. Kuiper Infrared Technology Experiment. 2. See Kinetic Kill Vehicle Integrated

Technology Experiment.

KKV

See Kinetic Kill Vehicle.

KKVWS

Kinetic Kill Vehicle Weapon System.

**KMCC** 

Kwajalein Mission Control Center.

KMR

Kwajalein Missile Range.

KREMS

Kiernan Reentry Measurement System.

KSC

Kennedy Space Center, FL.

KTC

Kwajalein Test Center, Kwajalein Atoll, Marshall Islands.

KTF

Kauai Test Facility, Barking Sands, HI.

KTP

1. Key Technical Partner. 2. Key Test Partner 3. Key Technical Parameters.

ΚV

Kill Vehicle.

kw

Kilowatt.

L2SS

Level 2 System Simulator, NTF.

LAAFB

Los Angeles Air Force Base, CA.

LABCOM

Laboratory Command.

LABM

Local Area Battle Manager.

LABP

Look Ahead Battle Planner

LACE

Laser Atmospheric Compensation Experiment (an SDIO/NRL satellite launched February 1990 and turned off July 1993).

LADAR

See Laser Detection and Ranging.

Laddering Down

A hypothetical technique for overcoming a terminal phase missile defense. Successive salvos of salvage-fused RVs attack. The detonations of one salvo disable local ABM abilities so that following salvos are able to approach the target more closely before being, in turn, intercepted. Eventually, by repeating the process, the target is reached and destroyed.

LAMP

Large Advanced Mirror Program.

LAN

Local Area Network.

L&TH

Lethality and Target Hardening.

LANL

Los Alamos National Laboratory, NM.

LAO

Limited Attack Option.

LARC

Langley Research Center, Hampton, VA.

Large Optics

The technology of constructing and employing mirrors over 1 m aperture to direct and control high power beam weapons/systems with large coverage, or to provide high resolution or high sensitivity for detection and/or imaging.

Lasant

A material that can be stimulated to produce laser light. Many materials can be used as lasants; these can be in solid, liquid, or gaseous form (consisting of molecules including excimers or atoms) or in the form of a plasma (consisting of ions and electrons). Lasant materials useful in high energy lasers include carbon dioxide, carbon monoxide, deuterium fluoride, hydrogen fluoride, iodine, xenon chloride, krypton fluoride, and selenium, to mention but a few.

LASE

LIDAR Acquisition and Sizing Experiment.

Laser

An active electron device that converts input power into a very narrow, intense beam of coherent visible or infrared light; the input power excites the atoms of an optical resonator to a higher energy level, and the resonator forces the excited atoms to radiate in phase. Derived from Light Amplification by Stimulated Emission of Radiation and classified from Class I - Class IV according to its potential for causing damage to the eye.

#### **LASERCOM**

Laser Communications.

# Laser Detection and Ranging (LADAR)

A technique analogous to radar, but which uses laser light rather than radio or microwaves. The light is bounced off a target and then detected, with the return beam providing information on the distance and velocity of the target.

### Laser Designator

A device that emits a beam of laser energy to mark a specific place or object.

# Laser Guided Weapon

A weapon that uses a seeker to detect laser energy reflected from a laser marker/designated target and, through signal processing, provides guidance commands to a control system. The control system then guides the weapon to the point from which the laser energy is being reflected.

# Laser Imaging Radar

A technology whereby a laser beam can be used in a way similar to the use of a radar beam to produce a high-quality image of an object.

### **Laser Optics**

Technology associated with the use and control of laser beams with flux greater than 1 watt/cm<sup>2</sup>.

#### Laser Seeker

A device based on a direction sensitive receiver that detects the energy reflected from a laser designated target and defines the direction of the target relative to the receiver. See also laser guided weapon.

# Laser Target Designating System

A system that is used to direct (aim or point) laser energy at a target. The system consists of the laser designator or laser target marker with its display and control components necessary to acquire the target and direct the beam of the laser energy thereon.

#### Laser Tracker

A device that locks on to the reflected energy from a laser marked/designated and defines the direction of the target relative to itself.

#### Laser Weapons

Devices, such as photon generators, that produce a narrow beam of coherent radiated power greater than 1 MW.

#### LATS

Long Wave Infrared Advanced Technology Seeker/Sensor.

#### Launch Azimuth

Missile launch location measured in degrees clockwise from the local north-pointing longitude line at the launch site. (USSPACECOM)

#### **Launch Detection**

Initial indication by any one of a variety of sensors that a booster has been launched from some point on the surface of the earth, with initial characterization of the booster type. (USSPACECOM)

# Launch Point Determination

With computer methods, uses missile track observation to estimate the point on the earth's surface from which the missile was launched, expressed in terms of circular error probable.

# Launch Under Attack (LUA)

Execution by National Command Authorities of Single Integrated Operational Plan forces subsequent to tactical warning of strategic nuclear attack against the United States and prior to first impact.

Launch Verification Confirmation of a detection of a booster launch by receiving a report from a sensor separate and independent of the sensor that initially detected a specific booster launch.

Layered Defense

A defense that consists of several sets of weapons that operate at different phases in the trajectory of a ballistic missile. Thus, there could be a first layer (e.g., boost phase) of defense with remaining targets passed on to succeeding layers (e.g., midcourse, terminal).

LBL

Lawrence Berkeley Laboratory, Berkeley, CA.

LBM

Localized Battle Management/Manager(s).

**LBTS** 

Land Based Test Site.

LCC

1. See Life-Cycle Cost. 2. Launch Control Center.

LCF

Launch Control Facility.

LCM

Life Cycle Management.

LCS

Laser Crosslink System.

LDS

Layered Defense System.
 Lexington Discrimination System.
 Limited Defense System.

LE

Lethality Enhancer (PAC-3).

Lead Component/

Service

The DoD Component designated by SECDEF to be responsible for management of a system acquisition involving two or more DoD Components in a joint program.

Leakage

The allowable threat objects passing through a BMD system expressed as a percentage of the threat. To ensure overall system performance, permitted leakage is "budgeted" among individual BMD phases and functions.

Leakage (Max)

The maximum allowable threat objects passing through a BMD system expressed as a percentage of the design-to threat. To ensure overall system performance, permitted leakage is "budgeted" among individual BMD phases and functions.

LEAP

Lightweight Exoatmospheric Projectile.

LEASAT

Leased Satellite.

Least Privilege

This principle requires that each subject in a system be granted the most restrictive set of privileges (or lowest clearance) needed for the performance of authorized tasks. The application of this privilege limits the damage that can result from accident, error, or unauthorized use.

LED

1. Low Endoatmospheric Defense. 2. Light Emitting Diode.

LEDI

Low Endoatmospheric Defense Interceptor.

LEDS

Low Endoatmospheric Defense System.

LEI

Low Endoatmospheric Interceptor.

LEO

See Low Earth Orbit.

Level of Effort (LOE)

Effort of a general or supportive nature that does not produce definite end products or results, e.g. contract man-hours.

Leverage

1. The advantage gained by boost-phase intercept, when a single booster kill may eliminate many RVs and decoys before they are deployed. This could provide a favorable cost-exchange ratio for the defense and would reduce stress on later tiers of the SDS. 2. In general, the power to act or influence to attain goals.

LF

1. Landing Force. 2. Low Frequency.

LFT&E

Live Fire Test and Evaluation.

LIDAR

See Light Detection and Ranging.

Life Cycle

1. The total phases through which an item passes from the time it is initially developed until the time it is either consumed or disposed of as being excess to all known material requirements. 2. (Software). All the states a software or software related product passes through from its inception until it is no longer useful.

Life-Cycle Cost (LCC)

The total cost to the Government of acquisition and ownership of that system over its useful life. It includes the cost of development, acquisition, support and, where applicable, disposal.

Life-Cycle Management Process for administering an automated information system or hardware support system over its whole life, with emphasis on strengthening early decisions which shape costs and utility.

Life-Cycle Model

A framework containing the processes, activities, and tasks involved in the development, operation, and support of the system, spanning the life of the system from the definition of its requirements to the termination of its use.

Life Cycle of a Weapon System All phases of the system's life including research, development, test and evaluation, production, deployment (inventory), operations and support, and disposal.

Life Jacket

The life support storage container for a Brilliant Pebbles singlet. The life jacket contains subsystems that perform power, communications, and environmental protection functions.

Light Detection and Ranging (LIDAR)

A precision probing instrument used to measure concentrations of different gasses or particulates in a given amount of atmosphere.

Light Replicas (LREP)

Decoys that, by virtue of shape, closely approximate an RV's signature with little off-load penalty.

#### Limited Attack

An attack on the U.S. and its allies which provides a stressing timeline, and is geographically distinct. Not an all-out attack or mass wave.

# Limited Defense System (LDS)

The development of systems, components, and architectures for a deployable anti-ballistic missile system (as described in section 232(a)(1) of the 1991 Missile Defense Act, as revised) capable of providing a highly effective defense of the United States against limited ballistic missile threats, including accidental or unauthorized launches or Third World attacks, but below a threshold that would bring into question strategic stability.

# Limited Operational Capability (LOC)

A point in time when the first set of sensors and weapons are able to be employed to provide a limited protection system.

# Limited Production

The initial production of a system in limited quantity. Part of an acquisition strategy to be used in test and evaluation for verification of design maturity, manufacturing process final proofing, and product engineering and to verify a factories capabilities prior to a decision to proceed with production. Decision usually made near the end of EMD or at Milestone IIIA or equivalent. (Also called Low-Rate Initial Production or Pilot Production.)

# Limited Test Ban Treaty

The bilateral Treaty signed and ratified by the United States and the (former) U.S.S.R. in 1963 which prohibits nuclear tests in all locations except underground, and prohibits nuclear explosions underground if they cause radioactive debris to be present outside the territorial limits of the state under whose jurisdiction or control the test would be conducted.

#### Linac

Linear Accelerator.

#### Line Item (Budget)

A specific program end item with its own identity (e.g., B-1B Bomber).

# Line of Sight (LOS)

The line from sensor to target necessary for the commencement of the detection, acquisition, track, and identification of a target.

# Line Replaceable Unit (LRU)

An essential support item removed and replaced at field level to restore end item to an operationally ready condition. (Also called Weapon Replacement Assembly and Module Replaceable Unit).

# Link Quality Evaluation

This testing of links to create bit error estimates and monitors natural or induced link interference.

# Live Fire Test And Evaluation (LFT&E)

Survivability testing and lethality testing required before full-scale production. Must be conducted on ACAT I and II programs for: (a) A covered system (a conventional weapon system designed to provide some degree of protection to the user in combat); (b) a major munition or missile program; (c) a product improvement program that will significantly affect the survivability of a covered system.

#### LGM

1. Laser Guided Missile. 2. Loop Group Multiplexer.

LIC

Low Intensity Conflict.

#### LIMDIS

Limited Distribution.

LL

1. Lincoln Laboratory, Lexington, MA. 2. Legislative Liaison.

LLNL

Lawrence Livermore National Laboratory, Livermore, CA.

**LMC** 

Late Midcourse.

LNA

Low Noise Amplifier.

LNO

Liaison Officer.

LOA

Letter of Agreement.

LOAD

Low Altitude Defense.

LOC

1. Lines of Communication. 2. Lines of Code. 3. See Limited Operational Capability.

# Local Assessment of Engagement

The assessment of an engagement by the high resolution fire control sensors.

# Local Environment

The ISTC Local Environment contained within each node simulates the element to the degree necessary to generate a realistic input to the Element Processor of Element Processor Emulation and provide a realistic response to the Element Processor or Element Processor Emulation.

Lock On

Signifies that a tracking or target-seeking system is continuously and automatically tracking a target in one or more coordinates (e.g., range, bearing, elevation).

LODE

Laser Optics Demonstration Experiment.

LODTM

Large Optics Diamond Turning Machine.

LOE

1. Level of Effort. 2. Letter of Evaluation (AF).

**Lofted Trajectory** 

Trajectory with an apogee greater than the minimum-energy trajectory to the same range.

Logistics

The science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, it includes those aspects of military operations which deal with: (1) design and development, acquisition, storage, movement, distribution, maintenance, evacuation, and disposition of materials; (2) movement, evacuation, and hospitalization of personnel; (3) acquisition or construction, maintenance, operation, and disposition of facilities; and (4) acquisition or furnishing of services.

**Logistics Support** 

The supply and maintenance of materiel essential to proper operation of a system in the force.

Logistics Supportability The degree to which planned logistics support (including test, measurement, and diagnostic equipment; spares and repair parts; technical data; support facilities; transportation requirements; training; manpower; and software support) allow meeting system availability and wartime usage requirements.

### Logistics Support Analysis (LSA)

The selective application of scientific and engineering efforts undertaken during the acquisition process, as part of the systems engineering process, to assist in: causing support considerations to influence design; defining support requirements that are related optimally to design and to each other; acquiring the required support; and providing the required support during the operational phase at minimum cost.

# Logistics Support Analysis Record (LSAR)

A formal tool under MIL-STD 1388-2A that uses records/forms to document operations and maintenance requirements, RAM, task analyses, technical data, support/test equipment, facilities, skill evaluation, supply support, ATE and TPS, and transportability. LSAR is the basis for training, personnel, supply provisioning and allowances construction, support equipment acquisition, facilities construction and preparation, and for maintenance.

LOI

1. Letter of Instruction. 2. Letter of Intent.

LOMEZ

Low Altitude Missile Engagement Zone.

Long Lead Items

Those components of a system for which the times to design and fabricate are the longest, and, therefore, to which an early commitment of funds may be desirable in order to meet the earliest possible date of system completion.

### Long Wavelength Infrared (LWIR)

Thermal radiation emitted by a source in the electromagnetic spectrum encompassing infrared wavelengths of 6 to 30 microns.

LOS

1. See Line of Sight. 2. Large Optical Segment.

LOTS

Logistics Over-The-Shore.

# Low Earth Orbit (LEO)

These satellites are at altitudes between 100 and 400 nautical miles. They have short duration revolutions (about 90 minutes), short visibility envelopes (2.5 minutes up to 10 minutes over a tracking station), short life spans, and are most subject to orbital perturbations due to atmospheric drag and earth gravitational anomalies.

Low Endoatmosphere That portion of the earth's atmosphere, generally below 40 km altitude.

LOW

Launch on Warning.

Low-Rate Initial Production (LRIP)

The production of a system in limited quantity to provide articles for operational test and evaluation, to establish an initial production base, and to permit an orderly increase in the production rate sufficient to lead to full-rate production upon successful completion of operational testing.

LPAR

Large Phased Array Radar.

LPE

1. Liquid Phase Epitaxy. 2. Launch point estimate.

LPI

Low Probability of Intercept.

LPS

Limited Protection System.

LRB

Liquid Rocket Booster.

LRC

Lewis Research Center, Cleveland, OH.

LREP

See Light Replicas.

LRINE

Longer Range Intermediate Nuclear Forces.

LRIP

See Low-Rate Initial Production.

LRU

1. Line Replaceable Units. 2. Line Replacement Units.

LS

Launching Stations (PATRIOT).

LSA

See Logistics Support Analysis.

LSAP

Logistics Support Analysis Program.

LSAR

Logistics Support Analysis Record.

**LSAT** 

Laser Satellite.

LSI

Large Scale Integration (circuits).

LST

1. Laser Spot Tracker. 2. Landing Ship, Tank.

LTBT

Limited Test Ban Treaty.

LTD

Laser Target Designator.

LTH

Lethality and Target Hardening.

LTV

Launch Test Vehicle.

**LUA** 

See Launch Under Attack.

LUP

Limited U.S. Protection.

LUT

Limited User Test.

LW

Laser Weapons.

LZ

Landing Zone.

LWIR

See Long Wavelength Infrared.

MAA

See Mission Area Analysis.

MAAG

Military Assistance Advisory Group.

MAC

OBSOLETE. Military Airlift Command. See AMC.

MACCS

Marine Corps Air Command and Control System.

MACOM

Major Army Command.

MAD

1. Mission Area Deficiency. 2. Mutually Assured Destruction.

MAGTE

Marine Air-Ground Task Force.

Main Beam

The primary directional EMR emitted from radar transmitters.

Maintainer

An individual responsible for retaining the major defense system in or restoring it to a specified condition. Maintenance activities include inspection, testing, servicing, classification as to serviceability, repair, rebuilding, and reclamation.

Maintenance Concept/Plan A description of maintenance considerations and constraints for system/equipment under development. A preliminary maintenance concept is developed and submitted as part of the preliminary system operational concept for each alternative solution candidate by the operating command with the assistance of the implementing and supporting commands. A major driver in design of the system/equipment and support planned for it.

Maintenance Operations The corrective and preventive maintenance operations that do not require a deployment decision; it includes correction and subsequent validation testing and the update of relevant status configuration, maintenance, and inventory data bases.

Maintenance Planning The process conducted to evolve and establish maintenance concepts and requirements for the lifetime of a material system; one of the principal elements of ILS.

MAISRC

See Major Automated Information System Review Council

MAJCOM

Major Command (USAF).

Major Automated Information System Review Council (MAISRC) The Senior DoD information management acquisition review board chaired by the Assistant Secretary of Defense for Command, Control, Communication, and Intelligence. See DoD Directive 8120.2.

# Major Defense Acquisition Program

An acquisition program that is not a highly sensitive classified program (as determined by the Secretary of Defense) and that is:

- Designated by the Under Secretary of Defense for Acquisition and Technology as a major defense acquisition program, or
- 2. Estimated by the Under Secretary of Defense for Acquisition and Technology to require:
  - a) An eventual total expenditure for research, development, test, and evaluation of more than \$200 million in fiscal year 1980 constant dollars (approximately \$300 million in fiscal year 1990 constant dollars), or
  - b) An eventual total expenditure for procurement of more than \$1 billion in fiscal year 1980 constant dollars (approximately \$1.8 billion in fiscal year 1990 constant dollars).

# Major Modification

A modification that in and of itself meets the criteria of acquisition category I or II or is designated as such by the milestone decision authority. Major modifications require a Milestone IV decision unless the decision to modify results from one of the alternatives considered as part of the Milestone I decision process. Upgrades are part of the Milestone O decision process.

# Major System

A combination of elements that will function together to produce the capabilities required to fulfill a mission need, including hardware, equipment, software, or any combination thereof, but excluding construction or other improvements to real property. A system shall be considered a major system if it is estimated by the Under Secretary of Defense for Acquisition and Technology to require:

- An eventual total expenditure for research, development, test, and evaluation of more than \$75,000,000 in fiscal year 1980 constant dollars (approximately \$115,000,000 in fiscal year 1990 constant dollars), or
- An eventual total expenditure for procurement of more than \$300,000,000 in fiscal year 1980 constant dollars (approximately \$540,000,000 in fiscal year 1990 constant dollars).

# Mandatory Access Control

A means of restricting access to objects based on the sensitivity (as represented by a label) of the information contained in the objects and the formal authorization of subjects to access information of such sensitivity.

#### M&LC

Missile and Launch Control.

#### M&S

Materials and structures.
 Modeling and Simulation.

### Maneuverable Reentry Vehicle (MARV)

1. A reentry vehicle capable of performing preplanned flight maneuvers during the reentry phase. The reentry vehicles deploy fins or other aerodynamic surfaces when they enter the atmosphere, allowing them to turn and dodge rather than fall ballistically. They have no ability to maneuver in space.

### Manpower Authorizations

The billets in the manpower requirements structure that are planned to be filled.

# Manpower Estimate Report (MER)

An estimate of the number of personnel who will operate, maintain, support, and train for the acquisition upon full operational deployment. The Services prepared the estimates, and the SECDEF submits them to Congress 30 days prior to approval for EMD or production.

Manpower, Personnel, Training, and Safety (MPTS) The human dimension of the complete defense weapon system. The term MPTS also encompasses the concepts and disciplines of human factors engineering and health hazard prevention.

Manpower, Personnel, Training, and Safety (MPTS) Profiles A description of human dimensions and constraints involving a major system throughout the system life cycle. This includes, but is not limited to, descriptions and categorizations of occupations, aptitudes, individual skills and demographics, training system characteristics and components, potential system hazards, and other issues affecting the performance and welfare of operators, maintainers, and personnel that support existing, modified or new systems.

MANPRINT

Manpower and Personnel Integration (US Army).

MANTECH

See Manufacturing Technology.

Manufacturing (or Production) Engineering Preproduction planning and operation analysis applied to specific product designs. The functions of planning, specifying, and coordinating the application of required factory resources including: performing analyses of production operations, processes, and systems; applying new manufacturing methods, tooling, and equipment; controlling the introduction of engineering changes, and employing cost control and quality techniques from the factory viewpoint.

Manufacturing
Operations,
Development, and
Integration
Laboratory
(MODIL)

An SDS-peculiar integration mechanism to link product technology development concurrently with manufacturing process and control development for a cost-reducing effective SDS development.

Manufacturing Technology (MANTECH) Manufacturing technology refers to any action which has as its objective the timely establishment or improvement of the manufacturing processes, techniques, or equipment required to support current and projected programs, and the assurance of the ability to produce, reduce lead time, ensure economic availability of end items, reduce costs, increase efficiency, improve reliability, or to enhance safety and anti-pollution measures. MANTECH, per se, is the specific DoD program in this area.

MAOPR

Minimum Acceptable Operational Performance Requirements.

MAP

Minimum Acquisition Program.

Marine Air Command and Control System A US Marine Corps tactical air command and control system that provides the tactical air commander with the means to command, coordinate, and control all air operations within an assigned sector and to coordinate air operations with other Services. It is composed of command and control agencies with communications-electronics equipment that incorporates a capability from manual through semiautomatic control.

Mark/Markup

Line by line review and approval/disapproval/modification of the defense budget by congressional committees.

MARS

Multiwarfare Assessment and Research System.

**MARSYSCOM** 

US Marine Corps Systems Command, Quantico, VA

MARV

See Maneuverable Reentry Vehicle.

**MARVIS** 

Mid-Apogee Reentry Vehicle Intercept System.

MASINT

Measurement and Signature Intelligence.

MASPAR

Massive Parallel Processors (TMD-GBR).

Mass Raid

Many Red ballistic missiles launched toward CONUS from several launch areas.

A mass ASAT raid consists of several ASATs attacking Blue satellites.

**Material Fielding** 

Plan

Plan to ensure smooth transition of system from developer to user.

Materials Science

The science of developing/altering and applying materials to obtain a resultant molecular structure with desirable physical properties and performance characteristics. (See Structures.) Also includes applying state-of-the-art advanced materials in the design of new SDS components and end items.

MATHSFA

Manufacturing and Testing of LWIR Hardened Seeker FPA Assemblies.

MATTR

Mid And Terminal Tiers Review.

Maximum

**Attrition** 

Maximum attrition is employed in a target-rich environment to destroy the maximum number of RVs, regardless of the type, by using all available or allocated interceptors. This option may not satisfactorily defend specific or

required assets.

MBA

Multi-Beam Antenna.

MBE

Molecular Beam Epitaxy.

**MBRV** 

Maneuvering Ballistic Reentry Vehicle.

MC

1. Mission Control. 2. See Midcourse phase.

MCAS

Marine Corps Air Station.

**MCBM** 

Midcourse Battle Manager.

MCC

Mission Control Complex/Center/Console.

MCCDC

Marine Corps Combat Development Center.

MCCR

Mission Critical Computer Resources.

MCG

Midcourse Guidance.

MCI

Midcourse Interceptor.

MCM

Multi-Chip Module.

**MCPDM** 

Marine Corps Program Decision Making.

**MCRDAC** 

Marine Corps Research, Development & Acquisition Command.

MCSS

1. Midcourse Surveillance System. 2. Military Communications Satellite

System.

MCTE

Mission, Course of Action, Task, and Element Control Directives.

MCTL

Militarily Critical Technologies List.

**MCTR** 

Missile Control Technology Regime.

MCV

Mission Capable Vehicle.

MDA

1. Missile Defense Act. 2. Milestone Decision Authority.

MDAP

Major Defense Acquisition Program.

**MDART** 

Missile Defense Activities Review Team.

MDC

Midcourse Data Center, Advanced Research Center, Huntsville, AL.

MDCI

Multi-Discipline Counterintelligence.

**MDDC** 

Missile Defense Data Center, USASSDC, Huntsville, AL.

**MEADS** 

See Medium Extended Air Defense System.

Mean Time Between Failures

(MTBF)

A measure of the reliability of an item. Defined as the total functioning life of an item divided by the total number of failures within the population during the measurement interval. The definition holds for time, rounds, miles, events, or other measures of unit life. MTBF is a basic measure of reliability.

Mean Time To Repair (MTTR) The total elapsed time for corrective maintenance divided by the total number of corrective maintenance actions during a given period of time. A basic measure of maintainability.

Mean Time to Restore System (MTTRS) A measure of the system maintainability parameter related to availability and readiness. The total corrective maintenance time associated with downing events, divided by the total number of downing events, during a stated period of time. (Excludes time for off-system maintenance and repair of detached components.)

Measure of Effectiveness (MOE) The quantitative expression (sometimes modified by subjective judgment) of the success of a system in achieving a specified objective.

## Medium Earth Orbit (MEO)

Space vehicles characterized by orbits between 400 and 10,000 nautical miles, longer duration revolution (2 to 12 hours), longer visibility envelopes (10 minutes up to approximately 1 hour), and generally longer lifetimes. This region contains the Van Allen radiation belts where electronic components need special protection.

# Medium Extended Air Defense System (MEADS)

A lightweight, highly transportable, low-to-medium altitude air defense and theater missile defense system designed to protect critical fixed and maneuverable corps assets. MEADS superseded the Corps SAM program in 1995.

# Medium Power Lasers

Lasers that radiate power less than 1 MW, normally used to detect, identify, track, and designate a target vehicle.

# Medium Range Ballistic Missile (MRBM)

A ballistic missile with a range from about 600 to 1,500 nautical miles.

# Medium Wavelength Infrared (MWIR)

Thermal radiation emitted by a source in the electromagnetic spectrum encompassing infrared wavelengths of 3 to 6 microns.

#### MEF

Marine Expeditionary Force.

# Memorandum of Agreement (MOA)

1. In contract administration, an agreement between a program manager and a Contract Administration Office, establishing the scope of responsibility of the Contract Administration Office with respect to the cost and schedule surveillance functions and objectives, and/or other contract administration functions on a specific contract or program. 2. Any written agreement in principle as to how a program will be administered.

# Memorandum of Understanding (MOU)

Official agreements concluded between the defense ministries of NATO nations and ranking below government level international treaties. De facto, such agreements are generally recognized by all partners as binding even if no legal claim could be based on the rights and obligations laid down in them.

#### MEO

See Medium Earth Orbit.

MER

See Manpower Estimate Report.

# Mercury Cadmium Telluride (HCT)

Infrared sensing material.

MESAR

Multifunction Electronically Scanned Adaptive Radar (UK).

MESFET

Metal Schottky-Gate Field Effect Transistor.

Mesosphere

The portion of the atmosphere from about 30 to 80 kilometers above the earth.

Methods Engineering The technique that subjects each operation of a given piece of work to close analysis to eliminate every unnecessary element or operation and to approach the quickest and best method of performing each necessary element or operation. It includes the improvement and standardization of methods, equipment, and working conditions; operator training; the determination of standard times; and occasionally devising and administering various incentive plans.

Metric

(Software). An indicator which measures some specific attribute of the software development process.

Metrology

The science of measurement, including the development of measurement standards and systems for absolute and relative measurement. Used to determine conformance to technical requirements including the development of standards and systems for absolute and relative measurements.

MEZ

Missile Engagement Zone.

MFEL

Medical Free Electron Laser.

MFLOPS

Million Floating Point Operations Per Second.

MFP

Major Force Program.

MFSIM

Multifunction Simulation (PATRIOT), Huntsville, AL.

MGEP

See Mobile Ground Entry Point.

MGLI

Midcourse Ground Launched Interceptor.

MHD

Magneto-Hydro-Dynamic.

MHV

See Miniature Homing Vehicle.

MIC

Management Information Center (BMDO).

MICOM

U.S. Army Missile Command, Redstone Arsenal, AL.

Midcourse Guidance The guidance applied to a missile between termination of the boost phase and the start of the terminal phase of flight.

Midcourse (MC)

Phase

That portion of a ballistic missile's trajectory between the boost phase and the reentry phase when reentry vehicles and penaids travel at ballistic trajectories above the atmosphere. During this phase, a missile releases its warheads and decoys and is no longer a single object, but rather a swarm of RVs and penaids falling freely along present trajectories in space.

Midcourse Space Experiment (MSX) Designed to provide demonstrations of midcourse acquisition and tracking from space, technology integration of optics, focal plane arrays, signal processing, etc., and collect background phenomenology measurements and target signature measurements.

MIJI

Meaconing, Intrusion, Jamming, and Interference.

MIL

Man-in-the-Loop.

MILCON

Military Construction.

Milestone

**Decision Authority** 

The individual designated in accordance with criteria established by the Under Secretary of Defense for Acquisition and Technology to approve entry of an acquisition program into the next phase.

Milestones (MS)

Major decision points that separate the phases of an acquisition program.

Military Capability

The ability to achieve a specified wartime objective (win a war or battle, destroy a target set). It includes four major components: a). Force Structure -- Numbers, size and composition of the units that compromise our Defense forces; b) Modernization -- Technical sophistication of forces, units, weapon systems, and equipment; c) Readiness -- The ability of forces, units, weapon systems, or equipment to deliver the outputs for which they were designed; d) Sustainability -- The ability to maintain the necessary level and duration of operational activity to achieve military objectives. Sustainability is a function of providing for and maintaining those levels of ready forces, materiel, and consumables necessary to support military effort.

Military Operational Requirements The formal expression of a military need, the response to which results in development or acquisition of items, equipment, or systems.

Military Requirement An established need justifying the timely allocation of resources to achieve a capability to accomplish approved military objectives, missions, or tasks.

Military Satellite (MILSAT)

A satellite used for military purposes, such as navigation or intelligence gathering.

Military Strategy Selection The determination of: (1) what targets to defend and their priorities in order to achieve the selected national strategy, and (2) the type of attackers (and/or their corridors) to be intercepted.

**Military Utility** 

The military worth of a system performing its mission in a competitive environment, including versatility (or potential) of the system. It is measured against the operational concept, operational effectiveness, safety, security, and cost/worth. Military utility estimates form a rational basis for making management decisions.

MILSAT

See Military Satellite.

**MILSATCOM** 

Military Satellite Communications.

MILSPEC

Military Specification.

**MILSTAR** 

Military Strategic and Tactical Relay (satellite system).

Miniature Homing Vehicle (MHV)/ Miniature Vehicle (MV) An air-launched direct-ascent ("pop-up") kinetic energy anti-satellite weapon.

Minimum Acceptable Operational Requirement The value for a particular parameter that is required to provide a system capability that will satisfy the validated mission need. Also known as the performance threshold.

Minimum Energy Trajectory The trajectory that produces maximum range for a given amount of energy.

Minimum Required Accomplishments

Necessary tasks that must be completed during an acquisition phase prior to the next milestone decision review. Applies to all acquisition categories and highly sensitive classified programs.

MIPR

Military Interdepartmental Purchase Request.

MIRACL

Mid Infrared Advanced Chemical Laser.

MIRV

Multiple Independently Targetable Reentry Vehicle.

MIS

Management Information System.

Missile Defense Warning Condition

A situation of peril declared by the competent military commander, that a ballistic missile attack is probable (Missile Defense Warning Yellow), imminent or in progress (Missile Defense Warning Red), or improbable (Missile Defense Warning White).

**Missile Destruct** 

Intentional destruction of a missile or similar vehicle for safety or other reasons.

Missile Guidance System A system that evaluates flight information, correlates it with target data, determines the desired flight path of a missile, and communicates the necessary commands to the missile flight control system.

Missile Intercept Zone That geographical division of the destruction area where surface-to-air missiles have primary responsibility for destruction of airborne objects.

Missile Release Line The line at which an attacking aircraft could launch an air-to-surface missile against a specific target.

Missile Warning Center (MWC)

Located in CMAFB, the MWC is operated by USSPACECOM to fulfill ballistic missile TW/AA responsibilities of USCINCSPACE to external users to whom there are commitments. The MWC manages the ballistic missile sensors and reporting system in support of timely, accurate, and unambiguous warning of missile attack worldwide. MWC personnel, in coordination with other centers, validate and confirm report events. The Launch Correlation Unit (LCU) of the MWC ensures all domestic and cooperative launches are coordinated and reported so that they are not construed as hostile in accordance with the "Agreement on Measures to Reduce the Risk of Outbreak of Nuclear War" between the US and USSR.

#### Mission

1. The task, together with the purpose, which clearly indicates the action to be taken and the reason therefor. 2. In common usage, especially when applied to lower military units, a duty assigned to an individual or unit; a task. 3. Missions are statements of the objective to be accomplished for a given situation. Missions will describe the situation and will include who, what, when, where, why, and how the BMD system will perform. They contain employment direction and procedures to BMD forces for a given situation to achieve specific defense objectives. (USSPACECOM)

#### Mission Area

A segment of the defense mission as established by the Secretary of Defense. Each DoD component has a mission area (i.e. Navy - sea control) for which it must equip its forces.

# Mission Area Analysis (MAA)

Continuous analysis of assigned mission responsibilities in the several mission areas to identify deficiencies in the current and projected capabilities to meet essential mission needs, and to identify opportunities for the enhancement of capability through more effective systems and less costly methods.

# Mission Capable (MC)

Material condition of an aircraft indicating it can perform at least one and potentially all of its designated missions. Mission capable is further defined as the sum of full mission capable and partial mission capable. Also called MC.

# Mission Critical Computer Resources

Automated data processing equipment or services if the function, operation, or use: (1) involves intelligence activities; (2) involves cryptologic activities related to national security; (3) involves command and control of military forces; (4) involves equipment which is an integral part of a weapon or weapons system; or (5) is critical to direct fulfillment of military or intelligence missions.

# Mission Critical System

A system whose operational effectiveness and operational suitability are essential to successful completion or to aggregate residual combat capability. If this system fails, the mission likely will not be completed. Such a system can be an auxiliary or supporting system, as well as a primary mission system.

### Mission Element

A segment of a mission area critical to the accomplishment of the mission area objectives and corresponding to a recommendation for a major system capability as determined by the DoD Component.

# Mission Need Analysis

Assesses alternatives in an operational context, identifying what force capabilities would be gained by pursuing any of a designated set of alternatives. Assesses the strengths and weaknesses of a military force when confronting a postulated threat in a specified scenario or set of circumstances.

# Mission Need Statement (MNS)

1. A nonsystem specific statement of operational capability need, prepared IAW format in DoD 5000.2-M. Developed by DoD components and forwarded to the Joint Requirements Oversight Council (JROC) for validation and approval (major efforts), or just notification (minor efforts). The JROC also assesses all MNSs for joint service potential. MNSs go to the milestone decision authority for a determination on whether or not to convene a Milestone O review.

2. A statement of operational capability required to perform an assigned mission or to correct a deficiency in existing capability to perform the mission.

Mission Reliability

The probability that the system will perform mission essential functions for a

period of time under the conditions stated in the mission profile.

MIST

Mosaic Infrared Sensor Technology.

MIT/LL

Massachusetts Institute of Technology / Lincoln Laboratory, Bedford, MA.

MΚ

Mark (version).

MKV

1. Miniature Kill Vehicle. 2. Multiple Kill Vehicle.

MLCP

Mission Launch Control Processor.

MLRS

Multiple Launch Rocket System.

MLV

1. Missile Launch Vehicle. 2. Medium Life Vehicle.

MMI

Man-Machine Interface.

MMIC

Monolithic Microwave Integrated Circuit.

MMM

Multi-Mode Missile.

MMS

Multi-Mode Seeker.

MMU

Man Maneuvering Unit.

MMW

Millimeter Wave.

MNS

See Mission Need Statement.

MOA

1. See Memorandum of Agreement. 2. Military Operating Area.

MOB

Main Operations Base.

Mobile Ground Entry Point (MGEP) The subset of GEPs which are transportable. GEPs provide the communications interfaces between the SDS space orbital/sub-orbital elements and the  $C^2E$ .

MOCVD

Metal Organic Chemical Vapor Deposition.

Mock-up

A model, built to scale, of a machine, apparatus, or weapon. It is used in examining the construction of critical clearances, in testing a new development, or in teaching personnel how to operate or maintain the actual item.

MOD

1. Ministry of Defense. 2. Modification.

Modes

Situational conditions or categories under which selective Rules of Engagement apply. Examples include: Peacetime: Day to day operation when training, exercises, and routine maintenance and operations occur. Prior to crisis or war. Crisis: The transition state between peacetime and war. War: Self-explanatory.

MODIL

See Manufacturing Operations, Development, and Integration Laboratory.

Modularity

The degree to which a system, computer program (or component) is composed of discrete components such that a change to one component has minimal

impact on other components.

MOE

See Measure of Effectiveness.

**MOLNIYA Orbit** 

This is a highly eccentric orbit with high apogee (.71 to .74) in the northern hemisphere and low perigee in the southern hemisphere. For a specific set of orbital parameters, this orbit has a changing velocity and altitude, which, when combined with the earth's rotation, keeps the orbiting satellite within view for very long periods (96%) above a designated point on earth.

MOM

Measure of Merit.

Monostatic Radar

A radar system in which the receiver and transmitter are collocated.

Mono Track

Data on the location and movement of an object in space, that can be derived by a single sensor.

MOP

Memorandum of Policy.

MOPA

Master Oscillator Power Amplifier.

MOR

Memorandum of Record.

MOS

Metal Oxide Semiconductor.

Moscow BMD System

The Soviet exoatmospheric system using the Dog House and Cat House phased-array radars for long-range acquisition. The system might also use the Hen House early warning radars for long-range acquisition. interceptor tracking is performed by mechanically-steered dish antennas.

MOSHED

Multiplanar Organic Scintillator High Energy Detector.

MOTIF

Maui Optical Tracking and Identification Facility, HI.

MOTR

Multiple Object Tracking Radar.

MOU

Memorandum of Understanding.

MPP

Massively Parallel Processor.

MPS

1. Multiple Protective Shelters (once to be used for basing MX). 2. Main Propulsion System.

MPT

Manpower, Personnel, and Training.

MPTS

See Manpower, Personnel, Training, and Safety.

MR

1. Milliradian. 2. Mobile Reserve.

MRBM

See Medium Range Ballistic Missile.

MRDA

Mission Requirements and Definition Analysis.

MRC

Major Regional Contingency.

MRSS

Mobile Range Safety System.

MRTFB

Major Range and Test Facility Base.

MRV

Maneuverable Reentry Vehicle.

**MRVIS** 

Mid-Apogee Reentry Vehicle Intercept System.

ms

Milliseconds.

MS

See Milestones.

MSC

1. Military Sealift Command. 2. Mission Support Configuration. 3. Major

Subordinate Command.

MSE

Mobile Subscriber Equipment (PATRIOT).

MSEL

Master Scenario Events List.

MSFC

Marshall Space Flight Center, Huntsville, AL.

MSI

Multi-Spectral Imagery.

MSIC

Missile and Space Intelligence Center (DIA), Redstone Arsenal, AL.

MSL

1. Mean Sea Level. 2. Master Station Log.

MSLS

Multi-Service Launch System (Minuteman).

MSR

Missile Site Radar.

MSS

1. Midcourse Surveillance System. 2. Multi-Satellite System. (ARPA)

MSTI

Miniature Sensor Technology Integration satellite.

MSX

See Midcourse Space Experiment.

MTBF

See Mean Time Between Failures.

MTCR

Missile Technology Control Regime.

MTI

Moving Target Indicator.

MTMC

Military Traffic Management Control.

MTOE

Modified Table of Organization and Equipment.

MTTR

See Mean Time To Repair.

**MTTRS** 

See Mean Time to Restore System.

MTTV

Maneuvering Tactical Target Vehicle.

Multilateration

A type of multistatic radar usually employing one transmitter and several receivers for target detection and tracking.

**Multilevel Device** 

A device that is used in a manner that it simultaneously permits access by users with different security clearances and needs-to-know, but prevents users from obtaining access to information for which they lack authorization.

Multilevel Secure

A class of system containing information with different classifications that simultaneously permits access by users with different security clearances and needs-to-know, but prevents users from obtaining access to information for which they lack authorization.

Multilevel Security Mode (ADP Security) A mode of operation using an operating system which provides a capability that permits various levels and categories or compartments of material to be concurrently stored and processed in an ADP system.

Multiple Independently Targetable Reentry Vehicle (MIRV) A reentry vehicle carried by a delivery system that can place one or more reentry vehicles over each of several separate targets.

Multiple Intercept Defense Capability to make two or more intercepts per target or targets defended.

Multiple Phenomenology Observations of potential targets by means of different physical principles and different sensor systems. In the case of sensor systems, the use of multiple phenomenology makes it more difficult for an adversary to deceive them.

Multiple Reentry Vehicle A reentry vehicle of a delivery system which places more than one reentry vehicle over an individual target.

Multiple Silo Defense Capability to defend two or more silos.

Multi-Service Doctrine Fundamental principals that guide the employment of forces of two or more Services in coordinated action toward a common objective. It is ratified by two or more Services, and is promulgated in multi-Service publications that identify the participating Services. See also Joint Doctrine.

Multiservice T&E

T&E conducted by two or more DoD Components for systems to be acquired by more than one DoD Component, or for a DoD Component's systems that have interfaces with equipment of another DoD Component.

Multi-Spectral Imagery The image of an object obtained simultaneously in a number of discrete spectral bands.

Multistatic Radar

A radar system with a transmitter and several receivers, all separated. A special case is bistatic radar. An advantage of multistatic radar over monostatic radar is that even if transmitters, which might be detected by the enemy when operating, are attacked, receivers in other locations might not be noticed and might thereby escape attack.

Multi-Year Appropriation Congressional appropriation available for incurring obligations for a definite period in excess of one fiscal year; i.e., for two or more years. (See Multi-Year Procurement.)

Multi-Year Procurement (MYP) A procurement of more units than the current year requirement. The total purchase is divided into segments which are annually budgeted and funded; however, the contractor is protected from cancellations through clauses in contracts.

MUX

Multiplex.

mV

Millivolt.

MV

See Miniature Vehicle.

MW

1. Mega-Watt (millions of watts). 2. Microwave. 3. Missile Warning.

MWC

See Missile Warning Center.

MWIR

See Medium Wavelength Infrared.

MX

Formerly an experimental missile; newest addition to U.S. ICBM arsenal; also

called "Peacekeeper."

NADC

Naval Air Development Center.

NAE

Navy Acquisition Executive.

NAF

1. Nonappropriated Fund. 2. Naval Air Facility.

NAIC

National Air Intelligence Center (DIA), Wright-Patterson AFB, OH.

NAS

1. National Academy of Sciences, Washington, DC. 2. Naval Air Station.

NASA

National Aeronautics and Space Administration, Washington, DC.

NASP

National Aerospace Plane.

National
Command
Authorities (NCA)

The President and the Secretary of Defense or their duly deputized alternates or successors.

National Emergency Airborne Command Post (NEACP) One of four specially equipped Boeing 747s that during a national emergency, would allow the President and top military leaders to stay airborne for up to 12 hours while linked to ground and space forces.

National Military Command Center (NMCC) The primary location for JCS command and control of all U.S. and Combined Forces. Located at the Pentagon, Arlington, VA.

National Military Command System (NMCS) The priority component of the Worldwide Military Command and Control System (WWMCCS) designed to support the National Command Authorities and Joint Chiefs of Staff in the exercise of their responsibilities. The NMC provides the means by which the President and the Secretary of Defense can receive warning and intelligence upon which accurate and timely decisions can be made, the resources of the Military Departments applied, military mission assigned, and by which direction can be given to CINCs or the commanders of other commands established by the NCA. The NMCS must be capable of providing information so that appropriate and timely responses can be selected and directed by the NCA and implemented. In addition, the NMCS supports the Joint Chiefs of Staff in carrying out their responsibilities.

National Missile Defense (NMD) System A ground-based anti-ballistic missile system designed to protect the U.S. against limited ballistic missile threats. It consists of four elements: ground-based interceptors (GBI); a ground-based radar (GBR); a battle management command, control, and communications (BM/C<sup>3</sup>) system; and a constellation of Space and Missile Tracking System (SMTS) (a.k.a. Brilliant Eyes) satellites.

# National Reconnaissance Office (NRO)

A Department of Defense Agency tasked to ensure that the United States has the technology, spaceborne, and airborne assets needed to acquire intelligence worldwide, including support to such functions as monitoring arms control agreements, indications and warning, and the planning and conducting of military operations. This mission is accomplished through research and development, acquisition, and operation of spaceborne and airborne intelligence data collection systems.

#### National Strategy Selection

The determination of (1) when it is in the national interest to activate and employ defense resources (i.e., the balance between responsiveness and crisis control), and (2) given an activation/employment decision, what should be the basic objective (e.g., force survival, survival of selected population centers, etc.).

# National Test Bed (NTB)

A number of geographically separated simulation and test facilities that are linked through communications to simulate various portions of the ballistic missile defense (BMD) system for testing and validating operational and technical concepts and technologies.

# National Test Bed Joint Program Office (NTBJPO)

A Joint Service organization established to manage the NTF and execute the NTB program for BMDO.

# National Test Facility (NTF)

A large, modeling, simulation and test facility located on Falcon AFB in Colorado which serves as the central control, coordinating, and computing center for the NTB and as the primary integration and test facility of the BMD SE&I contractor.

# National Warning Center (NWC)

Center in CMAFB which activates the radio, TV, and sirens that warn the U.S. population of impending ballistic missile attack. Also assists with national disaster relief, forest fires, and other events assigned.

#### **NATOPS**

Naval Air Training and Operating Procedures Standardization.

# Natural Ground and Atmospheric Environments

The environments which exist in the sensible atmosphere and on the surface of the earth. These include meteorological, seismic, biological and related natural conditions. This environment is applicable to ground-based assets and ground-launched interceptors in the atmospheric portions of flight, and it effects the propagation of radar and communications signals.

# Natural Space Environment

The natural environment which exists above the sensible atmosphere. Space begins approximately 100 km and above. This environment is applicable to orbiting space craft, to interceptors in the exoatmospheric portions of flight, and it affects the propagation of radar and communications signals.

### **NAVAIDS**

Navigational Aids.

**NAVAIR-SYSCOM** 

Naval Air Systems Command.

**Naval Space** Command (NAVSPACE- The naval component of USSPACECOM. Responsible for day-to-day operation of FLTSATCOM, NAVSPASUR, etc. Responsible for BMD elements that may be operated by the Navy. Located in Dahlgren, VA.

COM)

**Naval Space Operations Center** (NAVSPOC)

Existing Navy component command center at Dahlgren, VA, responsible for logistical and administrative support of forces assigned to them.

NAVDSOC

Navy Defense System Operations Center.

NAVFOR

Navy Forces.

NAVMIC

Naval Maritime Intelligence Center, Suitland, MD.

**NAVSAT** 

Navigation Satellite.

NAVSEA-SYSCOM

Naval Sea Systems Command.

**NAVSPACECOM** 

See Naval Space Command.

**NAVSPASUR** 

Naval Position of SPASUR.

NAVSPOC

See Naval Space Operations Center.

NAWC

Naval Air Warfare Center.

NBC

Nuclear, Biological, Chemical.

NBS

National Bureau of Standards.

NCA

See National Command Authorities.

NCC

NORAD Command Center, Colorado Springs, CO.

NCCOSC

Naval Command, Control, and Ocean Surveillance Center, San Diego, CA.

NCDCS

Narrow Band Coherent Data Collection System.

NCP

See NORAD Command Post.

NCS

1. National Communications System. 2. Net Control Station. 3. Naval Control

of Shipping.

NDC

Naval Doctrine Command.

NDEW

See Nuclear Directed Energy Weapon.

NDEWG

Nuclear Directed Energy Weapon - Ground-Based.

NDI

1. See Non-Developmental Item. 2. Non-Destructive Inspection.

NDP

National Disclosure Policy.

NDS

1. National Defense Stockpile 2. National Defense System.

NEA

1. Northeast Asia. 2. Northeast Asia campaign scenario.

NEACP

See National Emergency Alternate Command Post (E-4 aircraft).

**Near Real Time** 

Pertaining to the timeliness of data or information that has been delayed by the time required for electronic communication and automatic data processing. This implies that there are no significant delays.

Negate Early

The use of any technique that precludes the use of, renders useless, or degrades an early warning capability.

Negation

Warning

RV destruction or other actions which prevent damage to the defended area from conventional, nuclear, chemical, or biological effects.

NEMP

Nuclear Electromagnetic Pulse.

NEP

1. Nuclear Electric Propulsion. 2. Nuclear Environment Protection.

NEPA

National Environmental Policy Act.

Neutral Particle Beam (NPB) An energetic beam of neutral particles that is generally used to damage electronics.

NEW

Net Explosive Weight.

NFL

New Foreign Launch.

NH&S

Nuclear Hardening and Survivability.

NHMT

Nuclear-Hardened Mosaic Technology.

**NHTF** 

National Hover Test Facility, Edwards AFB, CA.

NIE

National Intelligence Estimate.

NIU

NATO Interface Unit.

NISC

OBSOLETE. Naval Intelligence Support Center. (Now Naval Maritime Intelligence Center (NAVMIC).)

NIST

National Institute of Standards and Technology, Gaithersburg, MD. (Formerly NBS (National Bureau of Standards)).

Nitze Criteria

A reference to Paul Nitze, the Reagan Administration's chief arms control negotiator, and his vocalization of the goal of the SDS as the achievement of raising the attack price where the defense cost is measured at the margin, not the total cost. Congress established the Nitze criteria as conditions of deploying an SDS in Section 222 of the National Defense Authorization Act for FY 1986.

NKEW

Nuclear Kinetic Energy Weapon.

NLT

1. Navy Lower Tier (Missile Defense). 2. Not Later Than.

NMC

Not Mission Capable.

NMCC

See National Military Command Center.

**NMCS** 

See National Military Command System.

NMD

National Missile Defense.

NMD/TRP

National Missile Defense Technology Readiness Program.

MMM

NMD Maturity Matrix.

NMSD

National Military Strategy Document.

NNAG

NATO Naval Armaments Group.

NNK

See Non-Nuclear Kill.

NOAA

National Oceanic and Atmospheric Administration, Washington, DC.

Node

A set of equipment and processes which performs the communications functions at the end of the datalinks which interconnect those elements which are resident on the network.

NOIC

Naval Operational Intelligence Center.

Noise

In the most general terms, noise is the undesired part of the process being observed or measured. Its complement, the desired part, is usually referred to as the signal.

#### Non-Developmental Item (NDI)

- 1. Any item of supply that is available in the commercial marketplace; or
- Any previously developed item of supply that is in use by a department or agency of the United States, a state or local government, or a foreign government with which the United States has a mutual defense cooperation agreement; or
- 3. Any item of supply described in definition 1 or 2, above, that requires only minor modification in order to meet the requirements of the procuring agency; or
- 4. Any item of supply that is currently being produced that does not meet the requirements of definition 1, 2, or 3, above, solely because the item is not yet in use or is not yet available in the commercial marketplace.

Non Material Solution Solutions to mission needs (warfighting, deficiencies) that can be satisfied by changes in doctrine, tactics, operational concepts, training, or organization.

Non-Nuclear Kill (NNK)

A kill that does not involve a nuclear detonation.

Nonrecurring

Costs

1. Costs that are not proportional to the number of units produced. 2. A one time cost that will occur on a periodic basis for the same organization. Nonrecurring costs include (a) preliminary design effort; (b) design engineering; (c) all partially completed reporting elements manufactures for tests. 3. Training of service instructor personnel.

NOP

Nuclear Operations.

NORAD

See North American Aerospace Defense Command.

NORAD Command

Post (NCP)

A center in CMAFB responsible for controlling ACC, Canadian, and other assigned forces for designated atmospheric missions in defense of North

America.

North American

Aerospace Defense Command (NORAD) A binational command of Canadian and U.S. forces responsible for defense of North America from bomber and ALCM/SLCM attack. Located in Colorado Springs CO.

Springs, CO.

NOSC

OBSOLETE. Naval Ocean Systems Center, San Diego, CA. See NCCOSC.

NPB

See Neutral Particle Beam.

NPG

Nuclear Planning Group.

NPR

National Performance Review.

NRaD

Naval Research and Development Division (NCCOSC), San Diego, CA.

NRL

1. Nuclear Referral List. 2. Naval Research Laboratory, Washington, DC.

NRO

See National Reconnaissance Office.

NRT

Near Real Time.

NSA/CSS

NSA Central Security Service.

NSC

1. See National Security Council. 2. National Security Center.

NSCID

National Security Council Intelligence Directive.

NSD

National Security Directive.

NSDD

OBSOLETE. National Security Decision Directive. Replaced by National

Security Directive (NSD).

NSEN

NMD System Engineering Notebook.

NSFS

Naval Surface Fire Support.

NSNF

Non-Strategic Nuclear Forces.

NSOC

1. National Signals Intelligence Operations Center. 2. Navy Satellite Operations

Center.

NSSC

National Space Surveillance Center, CMAFB.

NSWC DD

Naval Surface Warfare Center, Dahlgren, VA.

NTACS

Navy Tactical Air Control System.

NTB

See National Test Bed.

NTB/WAN

National Test Bed/Wide Area Network.

NTC

The National Test Center, located at Ft. Irwin, CA. A large maneuver area that serves as the Army's primary testing center for Army maneuver forces. Friendly forces are pitted against "enemy" forces to validate proposed

procedures and doctrine.

NTIC

1. Navy Tactical Intelligence Center. 2. National Technical Information Center.

NTF

See National Test Facility.

MTM

National Technical Means.

NTU

New Threat Upgrade.

Nuclear, Biological, and Chemical Contamination (NBCC)

The deposit and/or absorption of residual radioactive material or biological or chemical agents on or by structures, areas, personnel, or objects.

- Nuclear Contamination. Residual radioactive material resulting from fallout or rainout, and residual radiation from a system produced by a nuclear explosion, and persisting longer than one minute after burst.
- Biological Contamination. Microorganisms and toxins that cause disease in humans, plants, or animals or cause deterioration of material.
- Chemical Contamination. Chemical substances intended for use in military operations to kill, seriously injure, incapacitate, or temporarily irritate humans.

Nuclear, Biological, and Chemical Contamination Survivability

The capability of a system and its crew to withstand a NBCC environment and relevant decontamination without losing the ability to accomplish the assigned A NBCC survivable system is hardened against NBCC and mission. decontaminates; it can be decontaminated, and it is compatible with individual protective equipment.

- Hardness. The capability of material to withstand the materiel -damaging effects of NBCC and relevant decontamination.
- Decontamination. The process of making personnel and materiel safe by rendering harmless or removing radioactive, chemical, or biological material.
- Compatibility. The capability of a system to be operated, maintained, and resupplied by persons wearing individual protective equipment, in all climates for which the system is designed, and for the period specified in the operational requirements document.

**Nuclear Cloud** 

See Radioactive Cloud.

Nuclear Directed Energy Weapon (NDEW) A directed energy weapon for which the source of energy is a specially designed nuclear device.

Nuclear Environment The environment which results from the detonation of nuclear weapons. Some components of this environment are directly emitted by the nuclear weapon and other collateral effects are created by the interaction of the emitted nuclear radiation with the earth's atmosphere, the earth's surface and the earth's magnetic field. The nuclear environment consists of radiation, blast, shock, thermal, electromagnetic pulse (EMP), emissions from radioactive debris, trapped electrons, and disturbances to the atmosphere and to the propagation paths for radar and communications. The nuclear environment exists in the exoatmospheric, atmospheric and ground BMD operational regimes.

**Nuclear Hardness** 

A quantitative description of the resistance of a system or component to malfunction (temporary and permanent) and/or degraded performance induced by a nuclear weapon environment. Hardness is measured by resistance to physical quantities such as overpressure, peak velocities, energy absorbed, and electrical stress. Hardness is achieved through adhering to appropriate design specifications and is verified by one or more test and analysis techniques.

**Nuclear Radiation** 

Particulate and electromagnetic radiation emitted from atomic nuclei in various nuclear processes. The important nuclear radiations, from the weapons standpoint, are alpha and beta particles, gamma rays, and neutrons. All nuclear radiations are ionizing radiations, but the reverse is not true; x-rays, for example, are included among ionizing radiations, but they are not nuclear radiations since they do not originate from atomic nuclei. (See Ionizing Radiation and X-Rays.)

Nuclear Survivability Characteristics A quantitative description of the system features needed to meet its survivability requirements. Such system features include those design, performance, and operational capabilities used to limit or avoid the hostile environment, architectures that minimize the impact of localized damage to the larger wartime mission, as well as physical hardening to environment levels which cannot be mitigated otherwise. Survivability characteristics include proliferation, redundancy, avoidance, reconstitution, deception, and hardening.

NUDET

Nuclear Detonation.

NUICCS

NORAD and USSPACECOM Integrated Command and Control System.

NUT

Navy Upper Tier (Missile Defense).

NVG

Night Vision Goggles.

NWC

See National Warning Center.
 National War College.
 Nuclear Weapons Council.
 Naval Weapons Center.

NWP

Naval Warfare Publication.

NWS

National Weather Service.

NWSC

Naval Weapons Support Center.

OAMP

See Optical Airborne Measurement Program.

0&M

Operations and Maintenance.

**0&0** Plan

Operational & Organizational Plan (Army).

0&\$

Operations and Support.

OAR

Chairman of the Joint Chiefs of Staff Operation Plans Assessment Report.

OASD

Office of Assistant Secretary of Defense.

OASP

On-Array Advanced Signal Processing.

OB

Operating Budget.

**Object-Oriented** 

A software development approach that organizes software as a collection of objects containing both data structure and behavior.

Object-Oriented Analysis The process by which a real-world problem is examined in terms of a collection of objects to understand requirements, without planning the implementation.

Object Rate (Max)

The maximum rate (per second) that a sensor can acquire RVs, decoys, AOs, or fractionated missile/PBV debris.

Objects in FOV (Max)

The maximum number of RVs, decoys, AOs, or fractionated missile/PBV debris that a sensor can acquire at one time.

**Obligation** 

A duty to make a future payment of money. The duty is incurred as soon as an order is placed, or a contract is awarded. The placement of an order is sufficient. An obligation "legally" encumbers a specified sum of money that will require outlays or expenditures in the future.

Obligation Authority 1. A congressional authorization to procure goods and services within a specified amount by appropriation or other authorization. 2. The administrative extension of such authority, as by apportionment of funding. 3. The amount of authority so granted.

Obscurant

A material (e.g., smoke or chaff) used to conceal an object from observation by a radio or optical sensor. Smoke may be used to conceal an object from observation by an optical sensor, and chaff may be used to conceal an object from observation by a radio sensor (e.g., radar).

Observable

A measurable target attribute.

OCA

Offensive Counterair.

OCM

Overt Countermeasure.

OCU

Operators Console Unit (THAAD).

OD

Optical Disk (PATRIOT).

**ODCS** 

Office, Deputy Chief of Staff.

**ODES** 

Operational and Developmental Experiments Simulator.

Offense/Defense Coordination

The coordination of the strategic defense system operations with unified/specified strategic offense commands to achieve overall U.S. and Allied strategic mission objectives.

Off the Shelf

Procurement of existing system or equipment without an RDT&E program or with minor development to make the system suitable for DoD needs. May be commercial system/equipment or one already in DoD inventory. See Non-Developmental Item.

Off-the-Shelf Item

An existing item, system, or equipment, determined by a material acquisition decision process review (DoD, Military Component, or subordinate organization as appropriate) to be available for acquisition, without an RDT&E program or with mission development, to satisfy an approved requirement.

Offensive Counter Air Operation An operation mounted to destroy, disrupt, or limit enemy air power as close to its source as possible.

ois

Orbital Insertion Stage.

OJT

On-the-Job Training.

OLA

Office of Legislative Affairs (Navy).

OLC<sup>2</sup>

Operational Level Command and Control.

OMB

Office of Management and Budget.

OMT

Other Military Targets.

OMU

Orbital Maneuvering Unit.

OMV

Orbital Maneuvering Vehicle.

ON

Optic Needle.

On-Line

A unit that is operational, not dormant, but is not participating with on-going

functions.

ONR

Office of Naval Research, Arlington, VA.

OOMS

On-Orbit Maintenance/Servicing.

OP

1. Optical Processing. 2. Orthogonal Polarization.

OPCC

OBSOLETE. Offut Processing and Correlation Center. (Now Alternate

Processing and Correlation Center (APCC).)

**OPCOM** 

Operational Command (NATO).

OPCON

See Operational Control.

Operate Commands Commands and data distributed throughout the SDS to operate the system.

**Operating Budget** 

An operating budget is the annual budget of an activity stated in terms of Budget Classification Code, functional/subfunctional categories, and cost accounts. It contains estimates of the total value of resources required for the performance of the mission, including reimbursable work or services for others. It also includes estimates of workload in terms of total work units identified by cost accounts.

**Operating Costs** 

Those program costs necessary to operate and maintain the capability. These costs include Military Personnel, and Operations and Maintenance.

**Operating System** 

Software that controls the execution of computer programs. It may provide scheduling, debugging, input and output control, accounting, storage assignment, data management, and related service. Sometimes called supervisor, executive, monitor, or master control program depending on the computer manufacturer.

Operation

1. The intentional changing of an object in any of its physical or chemical characteristics. 2. The assembly or disassembly of parts or objects. 3. The preparation of an object for another operation, transportation, inspection, or storage. 4. Planning, calculating, or the giving or receiving of information. 5. Military action using deployed forces. 6. A military action or the carrying out of a strategic, tactical, service, training, or administrative military mission; the process of carrying on combat, including movement, supply, attack, defense, and maneuvers needed to gain the objectives of any battle or campaign.

Operation and Organizational Plan (O&O Plan) Describes how an Army system will be integrated into the force structure, deployed, operated and supported in peacetime and wartime.

**Operation Order** 

A directive issued by a commander to subordinate commanders for the purpose of effecting the coordinated execution of an operation. Also called OPORD.

Operation Plan (OPLAN)

Any plan, except for the Single Integrated Operational Plan, for the conduct of military operations. Plans are prepared by combatant commanders in response to requirements established by the Chairman of the Joint Chiefs of Staff and by commanders of subordinate commands in response to requirements tasked by the establishing unified commander. Operation plans are prepared in either a complete format of an OPLAN or as a concept plan (CONPLAN). a) OPLAN. An operation plan for the conduct of joint operations that can be used as a basis for development of an operation order (OPORD). An OPLAN identifies the forces and supplies required to execute the CINC's Strategic Concept and a movement schedule of these resources to the theater of operations. The forces and supplies are identified in time-phased force deployment data flies. OPLANs will include all phases of the tasked operation. b) CONPLAN. An operation plan in an abbreviated format that would require considerable expansion or alteration to convert it into an OPLAN or OPORD. A CONPLAN contains the CINC's Strategic Concept and those annexes and appendixes deemed necessary by the combatant commander to complete planning.

#### Operational Assessment

An evaluation of operational effectiveness and operational suitability made by an independent operational test activity, with user support as required, on other than production systems. The focus of an operational assessment is on significant trends noted in development efforts, programmatic voids, areas of risk, adequacy of requirements, and the ability of the program to support adequate operational testing. Operational assessments may be made at any time using technology demonstrators, prototypes, mockups, engineering development models, or simulations but will not substitute for the independent operational test and evaluation necessary to support full production decisions.

### Operational Availability

The degree, expressed in terms of 1.0 as the highest, to which one can expect an equipment or weapon system to work properly when it is required. The equation is uptime over uptime plus downtime, expressed as Ao. It is the quantitative link between readiness objectives and supportability.

#### Operational Capability

The measure of the results of the mission, given the condition of the system during the mission (dependability).

# Operational Control (OPCON)

Transferable command authority that may be exercised by commanders at any echelon at or below the level of combatant command. Operational control is inherent in Combatant Command (command authority) and is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish missions assigned to the command. Operational control should be exercised through the commanders of subordinate organizations; normally this authority is exercised through the Service component commanders. Operational control normally provides full authority to organize commands and forces and to employ those forces as the commander in operational control considers necessary to accomplish assigned missions. Operational control does not, in and of itself, include authoritative direction for logistics or matters of administration, discipline, internal organization, or unit training.

#### Operational Effectiveness

The overall degree of mission accomplishment of a system when used by representative personnel in the environment planned or expected (e.g., natural, electronic, threat, etc.) for operational employment of the system considering organization, doctrine, tactics, survivability, vulnerability, and threat (including countermeasures, initial nuclear weapons effects, nuclear, biological, and chemical contamination (NBCC) threats).

#### Operational Evaluation

The test and analysis of a specific end item or system, insofar as practicable under Service operating conditions, in order to determine if quantity production is warranted considering: a) the increase in military effectiveness to be gained; and b) its effectiveness as compared with currently available items or systems, consideration being given to: (1) personnel capabilities to maintain and operate the equipment; (2) size, weight, and location considerations; and (3) enemy capabilities in the field.

### Operational Level of War

The level of war at which campaigns and major operations are planned, conducted, and sustained to accomplish strategic objectives within theaters or areas of operations. Activities at this level link tactics and strategy by establishing operational objectives needed to accomplish the strategic objectives, sequencing events to achieve the operational objectives, initiating actions, and applying resources to bring about and sustain these events. These activities imply a broader dimension of time or space than do tactics; they ensure the logistic and administrative support of tactical forces, and provide a means by which tactical successes are exploited to achieve strategic objectives.

### **Operational Mode**

The configuration of the defense system element or segment. Refers to the operational environment of system, i.e., test configuration or training configuration.

#### Operational Readiness

The capability of a unit/formation, ship, weapon system or equipment to perform the missions or functions for which it is organized or designed. May be used in a general sense or to express a level or degree of readiness.

# Operational Reliability

The reliability of a system or software subsystem in its actual use environment. Operational reliability may differ considerably from reliability in the non-operational or test environment.

# Operational Requirement

Navy document which describes major characteristics of the alternative selected by OPNAV. It is submitted as originating document for all Navy new starts (less than major programs)--ACATs II, III, IV.

#### Operational Requirements Document (ORD)

Documents the user's objectives and minimum acceptable requirements for operational performance of a proposed concept or system. Format has been standardized across all DoD components by DoDI 5000.1 and DoD 5000.2-M.

### Operational Suitability

The degree to which a system can be placed satisfactorily in field use with consideration given to availability, compatibility, transportability, interoperability, reliability, wartime usage rates, maintainability, safety, human factors, manpower supportability, logistics supportability, natural environmental effects and impacts, documentation, and training requirements.

#### Operational Test and Evaluation (OT&E)

That T&E conducted to estimate a system's military utility, operational effectiveness, and operational suitability, as well as the need for any modifications. It is accomplished by operational and support personnel of the types and qualifications expected to use and maintain the system when deployed, and is conducted in as realistic an operational environment as possible.

# Operationally Ready

1. Capable of performing the missions or functions for which organized or designed (as applied to a unit, ship or weapon system). Incorporates both equipment readiness and personnel readiness. 2. Available and qualified to perform assigned missions or functions (as applied to personnel).

#### Operations and Support (O&S) Costs

Those resources required to operate and support a system, subsystem, or a major component during its useful life in the operational inventory.

**Operations Profile** 

An identification of all participants in an operation, their actions, and the time those actions occur in the operation. Includes assessment of operational procedures to ascertain whether stereotyped or predictable patterns are discernible.

**Operations** 

Security (OPSEC)

Survey

The method of evaluating the protection afforded a given operation. It is composed of multiple functional outlines that identify possible weaknesses or inefficiencies of an operation that could, if exploited, degrade operational effectiveness.

**OPEVAL** 

Operational Evaluation (Navy).

**OPLAN** 

Operation Plan.

Ops

Operations (employment).

OPINE

Operation in Nuclear Environment.

**OPLAN** 

See Operation Plan.

OPNAV

Office of the Chief of Naval Operations.

**OPNAVINST** 

Chief of Naval Operations Instruction.

OPORD

Operation Order.

OPS

Operations.

**OPSDEPS** 

Service Operations Deputies.

**OPTEC** 

Operational Test and Evaluation Command, Alexandria, VA. (U.S. Army)

**OPTEMPO** 

Operating Tempo.

**OPTEVFOR** 

Operational Test and Evaluation Force. (U.S. Navy)

Optical Airborne Measurement Program (OAMP) A program involving an aircraft-mounted research platform to conduct surveillance experiments that can be used to design future defensive systems. (Also known as Cobra Eye.)

**Optical Coating** 

Layers of materials that alter/protect the physical/electronic properties of the material to which they are applied.

Optical Processing

A type of analog processing in which the behavior of light beams, passed through optical systems, is used in problem solving.

OR

1. Operations Research. 2. Operational Requirement (Navy).

3. Operational Readiness

**Orbital Elements** 

Any set of several parameters (e.g., semi-major axis, eccentricity, inclination, etc.) used to specify the position and motion of a satellite. Six independent orbital elements are required to unambiguously specify the position of a satellite in a Keplerian orbit at a particular time.

Orbital

Maneuvering Vehicle (OMV)

NASA program to provide capability to perform satellite on-orbit servicing.

Operates from shuttle and Space Station.

**Orbiting Debris** 

Term referring to all earth-orbiting objects except active satellites.

ORD

See Operational Requirements Document.

**Order of Battle** 

The identification, strength, command structure, and disposition of the personnel, units, and equipment of any military force.

Order Wire Message A communications support function for internal control of communications elements.

Organic

Assigned to and forming an essential part of a military organization. Organic parts of a unit are those listed in its table of organization for the Army, Air Force, and Marine Corps, and are assigned to the administrative organizations of the operating forces for the Navy.

ORNL

Oak Ridge National Laboratory, TN.

OR/SA (ORSA)

Operations Research/Systems Analysis.

ORU

Orbital Replacement Unit.

ORWG

Operational Requirements Working Group.

os

1. Operational Suitability. 2. Operating System.

osc

Optical Signature Code.

osi

Operator System Interface.

OSTP

Office of Science and Technology Policy.

OSIWG

Operating Systems Interface Working Group.

OT

Operational Test.

**OTA** 

1. Office of Technology Assessment, Washington, DC.

2. Operational Test Agency.

3. Office of Technology Applications, BMDO.

OT&E

See Operational Test and Evaluation.

OTF

Object Track Profile.

ОТН

Over the Horizon.

отн-т

Over-The-Horizon Targeting.

ОТО

Operational Test Organization.

**OTP** 

Outline Test Plan.

OTV

Orbital Transfer Vehicle.

OUSD (A)

OBSOLETE. See OUSD (A&T).

OUSD (A&T)

Office of the Under Secretary of Defense (Acquisition & Technology).

**Outer Space** Treaty of 1967 A multilateral treaty signed and ratified by both the United States and the (former) Soviet Union. Article IV of the Outer Space Treaty forbids basing

nuclear weapons or other weapons of mass destruction in space.

**Outlays** 

Actual expenditures. Checks issued, interest accrued on the public debt, or other payments, net of refunds and reimbursements. Total budget outlavs consist of the sum of the outlays from appropriations and funds in the budget,

less receipts.

Out of Band Laser

Flux

(Sensor) Laser energy directed at a sensor that is intended to damage or disrupt

the sensor and is outside the sensor's bandwidth.

Normally, six years beyond the year being worked in the upcoming **Out-Years** 

POM/budget.

**Overlay BMD System** 

An advanced exoatmospheric defense system oriented toward defense of ICBMs, consisting of missile-borne, passive infra-red sensors and non-nuclear

homing interceptors.

OWG

Operating Working Group.

p<sup>2</sup>NRTA&A

Pre-Planned Near-Real-Time Assessment and Adaptation.

 $p_3$ 

See Preplanned Product Improvement.

PAC

1. PATRIOT Advanced Capability. 2. Program Assessment Center. (BMDO)

PAC-2/-3

PATRIOT Advanced Capability, Level 2/Level 3. Formerly called ERINT.

PAC-3 SIM

PAC-3 Simulation (PATRIOT), Huntsville, AL.

Packaging,
Handling,
Storage, and
Transportation (PHS&T)

The resources, processes, procedures, design considerations, and methods to ensure that all system, equipment, and support items are preserved, packaged, handled, and transported properly, including environmental considerations, equipment preservation requirements for short- and long-term storage, and transportability.

Packet Switching (PSW)

A data transmission process, utilizing addressed packets, whereby a channel is occupied only for the duration of transmission of the packet. In certain data communication networks the data may be formatted into a packet or divided and then formatted into a number of packets (either by the data terminal equipment or by equipment within the network) for transmission and multiplexing purposes.

**PACOSS** 

Passive and Active Controls of Space Structures.

PAM:

Pulse Amplitude Modulation.

Pancake Altitude

Altitude at which the trailing edge of a chaff puff/cloud effectively catches up to the leading edge because of atmospheric slowdown.

P&M

1. Producibility and Manufacturing. 2. Procure and Manufacture. 3. Pulse Acquisition Radar.

PAR

- 1. Phased-Array Radar. 2. Perimeter Acquisition Radar. (See Phased Array.)
- 3. Preprocessing Analysis Report.

Parallel Processing

In parallel processing multiple processors (CPUs) divide up a large task into smaller ones and each CPU acts on the subdivided task simultaneously so that much higher effective processing speeds can be attained.

Parametric Cost Estimate

A cost estimating methodology using statistical relationships between historical costs and other program variables such as system physical or performance characteristics, contractor output measures, manpower loading, etc. Also referred to as a top-down approach.

PARCS

See Perimeter Acquisition Radar and Attack Characterization System.

PARPRO

Peacetime Application of Reconnaissance Programs.

Partial Mission Capable Material condition of an aircraft or training device indicating that it can perform at least one, but not all, of its missions. Also called PMC. See also Full Mission Capable.

**Participating** Service

A military Service that supports the lead Service in the development of a joint acquisition program by its contribution of personnel and/or funds.

Particle Beam (PB)

High energy beam made up of atomic/sub-atomic particles (electrons, protons, or neutrons) accelerated to near the speed of light.

Particle Beam Weapon (PBW) A weapon that relies on the technology of particle accelerators (atomsmashers) to emit beams of charged or neutral particles which travel near the speed of light. Such a beam could theoretically destroy a target by several means, e.g., electronics upset, electronics damage, softening/melting of materials, sensor damage, and initiation of high explosives.

**PASS** 

POET Advanced Submunition Study.

**Passive** 

In surveillance, an adjective applied to actions or equipment which emit no energy capable of being detected.

**Passive Air** Defense

All measures, other than active air defense, taken to minimize the effectiveness of hostile air action. These measures include deception, dispersion, and the use of protective construction.

**Passive** Communications **Security Threats** 

Threats to electronic systems posed by a capability to obtain intelligence through intercepting and evaluating intentional and inadvertent electromagnetic emanations from electronic components of the system; e.g. communications interception and direction finding.

Passive Defense

1. Measures taken to reduce the probability of and to minimize the effects of damage caused by hostile action without the intention of taking the initiative. 2. Passive defense minimizes the probability and effects of theater missile attack by reducing an enemy's ability to target friendly assets, reducing the vulnerability of critical forces and infrastructure, and improving the potential to survive and resume operations after an attack. Passive measures might include counter-surveillance, deception, camouflage and concealment, hardening, electronic warfare, mobility, dispersal, and redundancy. Passive defense is considered one of the four pillars of TMD capability. (JCS J-38 CONOPS)

**Passive Sensor** 

A sensor that detects naturally occurring emissions from a target for tracking and/or identification purposes.

PAT

Process Action Team.

PAT&E

Production Acceptance Test and Evaluation.

**PATHS** 

Precursor Above-the-Horizon Sensor.

PATRIOT

See Phased Array Tracking Radar Intercept On Target (missile).

PAVE PAWS

Position And Velocity Extraction Phased Array Warning System. Phased array SLBM warning system. Four sites:

a. East

Otis ANG Base, MA

b. West

Beale AFB, CA

c. Southeast Robins AFB, GA

d. Southwest Goodfellow AFB, TX

Payload (Missile)

- 1. The warhead, its container, and activating devices in a military missile.
- 2. The satellite or research vehicle of a space probe or research missile.

Payload Build-up (Missile and Space) The process by which the scientific instrumentation (sensors, detectors, etc.) and necessary mechanical and electronic subassemblies are assembled into a complete operational package capable of achieving the scientific objectives of the mission.

Payload Integration (Missile and Space) The compatible installation of a complete payload package into the spacecraft and space vehicle.

PB

1. See Particle Beam. 2. Post-Boost. 3. See President's Budget.

4. Program Baseline.

**PBCRAW** 

Post-Boost Control Reaction Altitude Wafer.

**PBCS** 

Post-Boost Control System.

PBD

Program Budget Decision.

PBI

Post-Boost Intercept.

PBP

See Post-Boost Phase.

PBV

See Post-Boost Vehicle.

PBW

See Particle Beam Weapon.

PC

1. Printed Circuit. 2. Personal Computer. 3. Principals Committee.

PCA

See Physical Configuration Audit.

PCB

Printed Circuit Board.

**PCL** 

Pulsed Chemical Laser.

PCM

1. Pulse Code Modulation.

PD

1. Presidential Directive. 2. Procedures Description. 3. Probability of Damage.

4. Probability of Detection. 5. See Preconditions for Defense.

PDB

Post Deployment Build (PATRIOT).

PDC

Plume Data Center, AEDC, TN.

PDM (I or II)

See Program Decision Memorandum (First or Second).

PDR

See Preliminary Design Review.

PDSL

See Process Data Sensitivity Label.

PCR

1. Program Change Request. 2. Procurement Center Representative.

PD

1. Program Director (AF). 2. Production/Deployment.

PE

Program Element.

Peak Gamma Dose Rate The maximum rate (per second) of gamma radiation that the system could survive and continue functioning.

survive and continue functioning

PEC

1. Program Element Code. 2. See Pre-authorized Engagement Criteria.

PEELS

Parametric Endo-Exo Lethality Simulation.

PEIS

Programmatic Environmental Impact Statement.

PEM

Program Element Monitor (AF).

Penaid

(Penetration Aid)

(Formerly an acronym for Penetration Aid.) Techniques and/or devices employed by offensive aerospace weapon systems to increase the probability of penetrating enemy defenses.

Penetration

Testing

The portion of security testing in which the penetrators attempt to circumvent the security features of the system. The penetrators may be assumed to use all system design and implementation documentation, which may include listings of system source code, manuals, and circuit diagrams. The penetrators work under no constraints other than those that would be applied to ordinary users.

PEO

See Program Executive Officer.

PEO-MD

Program Executive Officer, Missile Defense. (U.S. Army)

PEO (TAD)

Program Executive Officer, Theater Air Defense. (U.S. Navy)

PEO (TAD)-B

Program Executive Officer, U.S. Navy Theater Ballistic Missile Defense Program

Office.

PEP

Producibility Engineering and Planning.

PEPP

See Producibility Engineering and Production Planning.

Peregrine

An Air Force boost-phase interceptor concept under development at USAF/SMC.

**Performance** 

Those operational and support characteristics of the system that allow it to effectively and efficiently perform its assigned mission over time. The support characteristics of the system include both supportability aspects of the design and the support elements necessary for system operation.

Performance Requirement A requirement that specifies a performance characteristic that a system or system component must possess; for example, speed, accuracy, frequency.

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Performance Specification 1. A specification that sets forth the performance requirements for a system or system component. 2. Synonymous with requirements specification.

Perimeter
Acquisition Radar
and Attack
Characterization
System (PARCS)

AN/FPQ-16 phased array radar at Cavalier AFS, ND, used for early warning and attack assessment.

Period (nodal)

Time for a satellite to travel once around its orbit.

Permeability

Having the ability to diffuse through or penetrate something.

PERT

Program Evaluation and Review Technique.

**PERT Chart** 

A graphic portrayal of milestones, activities, and their dependency upon other activities for completion, and depiction of the critical path.

PET

1. Pilot-Line Experiment Technology. 2. Production Environmental Test.

PFC

Prototype Flight Cryocooler.

PFS

Pre-Feasibility Study (UKMOD).

PGM

Precision Guided Munition.

Phased Array

The arranging of radiating and/or receiving elements that, although physically stationary, are electronically steerable and can switch rapidly from one target to another (e.g., phased array radar).

Phased Array Tracking Radar Intercept On Target (missile) (PATRIOT) A point or limited area defense system originally built to intercept aircraft. PAC-3 improvements, which will give it greater capability against theater ballistic missiles, include upgrades to the radar and selection of an improved missile, either PATRIOT Multimode Missile or ERINT.

Phased Deployment

The sequential steps of element deployments leading to a designated system capability that is realizable with fiscal and technological constraints.

Phase One Engineering Team (POET) OBSOLETE. An FFRDC providing technical support to the Phase I Program Office. Now referred to as POET.

Phenomenology

The topological classification of a class of phenomena. Phenomenology efforts collect and analyze optical and radar signature data, and model phenomena required by systems developers to design and evaluate SDS elements.

**Photochemical** 

A chemical reaction resulting from exposure to radiant energy or light.

Photoelectric Effect The process whereby a gamma ray (or x-ray photon) with energy somewhat greater than that of the binding energy of an electron in an atom, transfers all its energy to the electron which is consequently removed from the atom. Since it has lost all its energy, the photon ceases to exist. (See Photon.)

Photon

A unit or "particle" of electromagnetic radiation, carrying a quantum of energy

which is characteristic of the particular radiation.

PHS&T

See Packaging, Handling, Storage, and Transportation.

PHST

See Packaging, Handling, Storage, and Transportation.

**Physical Agents** 

Descriptive term that includes non-ionizing EMR, static electric and magnetic fields, ionization radiation, energy beams, noise, explosions, de-orbiting debris,

and extreme cold.

Physical Configuration Audit (PCA) Physical examination to verify that the configuration item(s) "as built" conforms to the technical documentation that defines the item. Approval by the government program office of the CI product specification and satisfactory completion of this audit established the product baseline. May be conducted on first full production or first LRIP team.

ΡI

See Program Integrator.

Picture Element (PIXEL)

The smallest element of a display space that can be independently assigned color and intensity; the finest detail that can be effectively reproduced on a recording medium.

**Pilot Production** 

Production line normally established during EMD to test new manufacturing methods and procedures. Normally funded by RDT&E until the line is proven. Not the same as long range initial production.

PIMS

Programmable Implantable Medication System.

PIP

1. Predicted Impact Point. 2. See Predicted Intercept Point.

3. Product Improvement Proposal/Program.

PIXEL

See Picture Element.

Pk

Probability of Kill.

PKO

Peacekeeping Operations.

Pkss

Probability of kill -- single shot.

PL

1. Probability of Leakage. 2. Phillips Laboratory, Kirtland AFB, NM. 3. Public

Law.

Planning, Programming, Budgeting System (PPBS) The primary resource allocation process of DoD. One of three major decision-making support systems for defense acquisition. It is a formal, systematic structure for making decisions on policy, strategy, and the development of forces and capabilities to accomplish anticipated missions. PPBS is a cyclic process containing three distinct, but interrelated phases: planning, which produces the Program Objectives Memorandum (POM) for the Military Departments and Defense Agencies; and budgeting, which produces the DoD portion of the President's Budget. DoD PPBS is a biennial process starting in January of each odd numbered year with a national security guidance to initiate the planning phase, and ending in January of the next odd numbered year with the President's budget submission to Congress. (Defense Systems Management College)

**PLCCE** 

Program Manager's Life Cycle Cost Estimate.

PLRS

Position Location Reporting System.

Plume Data Center AEDC, Arnold AFB, TN.

**PLV** 

Payload Launch Vehicle.

PΜ

See Program Manager.

PMA

See Program Management Agreement.

PMD

1. Program Management Document. 2. Program Management Directive (AF).

PMO

Program Management Office.

**PMR** 

1. Program Management Review. 2. Pacific Missile Range.

**PMRF** 

Pacific Missile Range Facility, Barking Sands, Kauai, Hl.

**PMTC** 

Pacific Missile Test Center, Pt. Mugu, CA.

**PMWG** 

Producibility and Manufacturing Working Group.

POA&M

Plan of Actions and Milestones.

POC

1. See Point of Contact. 2. Proof of Concept.

POC/ET

Proof of Concept/Experimental Test (e.g., modular USSTRATCOM ground mobile command post).

POCT

Passive Optical Component Technology.

POD

1. Plan of the Day. 2. Probability of Detection. 3. Port of Debarkation.

POE

1. Program Office Estimate. 2. Projected Operating Environment.

POET

A consortium of scientist and engineers from FFRDCs providing technical support to the BMDO. (Formerly referred to as the Phase One Engineering Team.)

Point Defense

The defense or protection of special vital elements and installations; e.g., command and control facilities, air bases, etc.

Point Defense System A terminal defense system using radars and large numbers of guided projectiles to defend ICBMs. This concept was considered in the early 1980s.

**Pointing** 

The aiming of sensors or defense weapons at a target with sufficient accuracy either to track the target or to aim with sufficient accuracy to destroy it. Pointing and tracking are frequently integrated operations.

POL

Petroleum, Oil, and Lubrication.

**POLAD** 

Political Advisor.

POM

See Program Objectives Memorandum.

**POMCUS** 

Pre-positioning Of Materiel Configured to Unit Sets.

**Portability** 

(Software) The extent to which a software component originally developed on one computer or operating system can be used on another computer or operating system.

**Port Covers** 

Mechanism for thrust termination of solid-propellant systems.

POS

1. Primary Operating Stocks. 2. Probability Of Success.

3. Position.

POST

Portable Optical Sensor Tester.

Post-Attack

The period following the attack, prior to the next wave.

Post-Attack Period In nuclear warfare, that period which extends from the termination of the final attack until political authorities agree to terminate hostilities.

Post-Boost Phase (PBP) That portion of the trajectory of a ballistic missile between the end of powered flight and release of the last RV. Applies only to multiple-warhead ballistic missiles. (USSPACECOM)

Post-Boost Vehicle (PBV) The portion of a rocket payload that carries multiple warheads and which has the maneuvering capability to independently target each warhead on a final trajectory toward a target. Also referred to as a "bus."

**POTS** 

OBSOLETE. Phase One Threat Specification.

PP

1. Parallel Processing. 2. Principal Polarization. 3. Post Processing. 4. Program Plan.

PPBS

See Planning, Programming, Budgeting System.

**PPIRS** 

See Producibility Programming and Issues Resolution Strategies.

PPP

Program Protection Plan.

PPQT

Pre-Production Qualification Test.

PPS

Precision Positioning System.

PPU

Prime Power Unit (THAAD).

PR

Procurement Request.

PRB

1. Planning and Resources Board. 2. Program Review Board.

PRC

Program Review Committee.

Pre-Allocated Defense

A preplanned decision to designate a specific number of defensive assets to be used against a specific target or set of targets or to defend a specified asset or set of assets. The defense will select the best tactic to use based on the number of interceptors available, their probability to kill, the number of targets under attack to be defended, and the scope of the attack.

Pre-Attack

A period of time immediately prior to an attack, usually hours to minutes to tipoff.

Pre-Authorized Engagement Criteria (PEC) Pre-specified quantitative operational parameter thresholds which when surpassed cause automated engagements to be enabled.

Precedence

1. A designator which indicates the order in which a number of messages shall be served. Four precedence levels are provided for SDS, with one being the highest and four the lowest. Messages with precedence level one are served first and those with level four last. These correspond to the four precedence levels, Flash, Immediate, Priority, and Routine respectively. 2. (Reconnaissance) A letter designation, assigned by a unit requesting several reconnaissance missions, to indicate the relative order of importance, within an established priority, of the mission requested.

**Precision Decoys** 

Decoys that precisely match RV characteristics either exoatmospherically or endoatmospherically, or both, and seek to deceive the defense into intercepting them.

Pre-Commit Strategy A tactic in which defense weapons are fired without being individually committed to specific targets. Target commitment would occur relatively late in the defensive weapon's trajectory.

Preconditions for Defense (PD) PDs are NCA preapproved criteria, authorities, and procedures that delineate circumstances under which USCINCSPACE BMD forces will initiate or continue combat engagements and operations against hostile ballistic missile attacks directed at the United States, its Allies, or U.S. interests during peace, crisis, and war.

Predicted Intercept Point (PIP) The calculated position in space where the target and interceptor coincide.

### Preferential Defense

Preferential defense is the a-priori assignment of defensive assets to protect given facilities or capabilities.

# Preferential Defense Strategy

A tactic used as part of the SDS strategy to optimize the use of weapons and sensors by selecting high value targets for engagement by the defense while temporarily allowing less important targets to pass. This strategy forces the offense to attack with several times as many RVs as the defense has interceptors. Since preferential defense demands precise impact point prediction, the strategy is placed at a disadvantage if targets are closely spaced, if RVs can maneuver or if the defense intercepts ICBMs in the boost phase.

### Preferential Offense

The concentration of offensive assets on a subset of targets.

Pre-Launch Survivability The probability that a delivery and/or launch vehicle will survive an enemy attack under an established condition of warning.

#### Preliminary Design Review (PDR)

A review conducted on each configuration item to evaluate the progress, technical adequacy, and risk resolution of the selected design approach; to determine its compatibility with performance and engineering requirements of the development specification; and to establish the existence and compatibility of the physical and functional interfaces among the item and other items of equipment, facilities, computer programs, and personnel. Conducted during Phase I, Demonstration and Validation (for prototypes), and Phase II, Engineering and Manufacturing Development.

### Preplanned Product Improvement (P<sup>3</sup>I)

Planned future evolutionary improvement of developmental systems for which design considerations are effected during development to enhance future application of projected technology. Includes improvements planned for ongoing systems that go beyond the performance envelope to achieve a needed operational capability.

#### Preplanned Response Options (PRO)

Ballistic Missile Defense (BMD) reactions which have been preplanned, analyzed, and preapproved, for specific ballistic missile threats. The PRO, equivalent to an operations plan, consist of a number of Defense Employment Options (DEO) which provide force employment objectives to Component forces based upon the world situation, national objectives/guidance, BMD asset status, and the intent of the threat. PRO are automatically processed with real-time human oversight and control when USCINCSPACE directs execution.

# Preproduction Prototype

An article in final form employing standard parts, representative of articles to be produced subsequently in a production line.

#### Preproduction Test

This is a test of design-qualified hardware that is produced using production tooling and processes which will be used to produce the operational hardware. No production hardware should be accepted prior to satisfactory completion of this test. Test objectives include: gaining confidence that production hardware is going to work; that it will be reliable; that it can be maintained and supported by the user; and that it is not overdesigned.

#### **Preset Guidance**

A technique of missile control wherein a predetermined flight plan is set into the control mechanism and cannot be adjusted after launching.

### President's Budget (PB)

The Federal Government's budget for a particular fiscal year transmitted in January (first Monday after January 3rd) to the Congress by the President in accordance with the Budget and Accounting Act of 1921, as amended. Includes all agencies and activities of the executive, legislative and judicial branches (For FY 88/89, two-year budget for DoD submitted in January 1987.)

PRF

Pulse Repetition Frequency.

PRG

Program Review Group.

#### Prime Contractor

A contractor having responsibility for design control and delivery of a system or equipment such as aircraft, engines, ships, tanks, vehicles, guns and missiles, ground communications and electronic systems, ground support equipment, and test equipment.

### Prioritize Targets

To identify and rank targets in priority fashion, based upon criteria such as type, predicted impact point, and predicted time of impact.

#### PRN

Pseudo Random Noise.

#### PRO

1. See Preplanned Response Options. 2. Plant Representative Office.

### Probability of Damage

The probability that damage will occur to a target expressed as a percentage or as a decimal.

#### Probability of Detection

1. The probability that the search object will be detected under given conditions if it is in the area searched. 2. The probability an object will be detected given all known error and noise sources.

# Probability of Discrimination

This is the probability that an object which is threatening will be correctly identified. The ability to discriminate between a potential target and a decoy is quantified by a "K" factor, in which the higher the numeric the greater the probability of discrimination (thus, a "O" K factor implies that the target is indistinguishable from the decoy).

### Probability of False Alarm

1. For a single sensor this is the probability that an object will be detected when no object is present. 2. For discrimination, this is the probability that an object which is not a threatening object will be identified as one.

### Probability of Kill

The lethality of a weapon system. Generally refers to armaments (i.e. missiles, ordnance, etc.) Usually the statistical probability that the weapon will detonate close enough to the target with enough power to disable the target. (Defense Systems Management College)

Probe

The air vehicle of the GSTS.

Process Data Sensitivity Label (PDSL) The sensitivity label for data contained in a process.

Procuring Contracting Officer (PCO) The individual authorized to enter into contracts for supplies and services on behalf of the government by sealed bids of negotiations who is responsible for overall procurement of the contract.

Producibility

The relative ease of manufacturing an item or system. This relative ease is governed by the characteristics and features of a design that enable economical fabrication, assembly, inspection, and testing using available manufacturing techniques.

Producibility, Engineering, and Planning (PEP) Applies to production engineering tasks to ensure a smooth engineering transition from development into production. PEP, a systems and planning engineering approach, assures that an item can be produced in the required quantities and in the specified time frame, efficiently and economically, and will meet necessary performance objectives within its design and specification constraints. As an essential part of all engineering design, it is intended to identify potential manufacturing problems and suggest design and production changes or schedule trade-offs which would facilitate the production process.

Producibility, Programming, and Issues Resolution Strategies (PPIRS) A semi-annual document put out by the BMDO P&M community listing all the medium and higher P&M risk issues as prioritized and coordinated by the BMDO P&M Working Group.

Producibility Review A feasibility review of the design of a specific hardware item or system to determine the relative ease of producing it using available production technology considering the elements of fabrication, assembly, inspection, and test. This is a generic term for the concurrent engineering portions of MIL-STD 1521 system design reviews.

**Product Baseline** 

- 1. Established by the detailed design documentation for each configuration item. Normally includes Process baseline (type D spec), Material baseline (type E spec), type C spec, and drawings.
- 2. In configuration management, the initial approved technical documentation (including, for software, the source code listing) defining a configuration item during the production, operation, maintenance, and logistic support of its life cycle.

Product Configuration Identification The current approved technical documentation which defines the configuration of a configuration item during the production, operation, maintenance, and logistics support phases of its life cycle and which prescribes that necessary for: (1) fit and function characteristics of a CI (Configuration Item); (2) the selected functional characteristics for production acceptance; and (3) the production acceptance test.

#### Product Improvement

Effort to incorporate a configuration change involving engineering and testing on end items and depot repairable components, or changes on other than developmental items to increase system or combat effectiveness or extend useful military life. Usually results from user feedback.

# Production Acceptance Test and Evaluation

T&E of production items to demonstrate that items procured fulfill the requirements and specifications of the procuring contract or agreements.

# Production and Deployment

Normally the fourth phase in the acquisition process following Milestone III. Systems are procured, items are manufactured, operational units are trained, and the systems are deployed.

# Production Baseline

The Acquisition Program Baseline (APB) approved at Milestone III, applicable to the effort in Phase III, Production and Deployment.

#### Production Control

The procedure of planning, routing, scheduling, dispatching, and expediting the flow of materials, parts, subassemblies, and assemblies within the plant from the raw state to the finished product in an orderly and efficient manner.

#### Production Feasibility

The likelihood that a system design concept can be produced using existing production technology while simultaneously meeting quality, production rate, and cost requirements.

### Production Qualification Test (PQT)

A technical test conducted post MS III to ensure the effectiveness of the manufacturing process, equipment, and procedures. This testing also serves the purpose of providing data for the independent evaluation required for materiel release so that the evaluator can address the adequacy of the materiel with respect to the stated requirements. These tests are conducted on a number of samples taken at random from the first production lot, and are repeated if the process or design is changed significantly, and when a second or alternative source is brought on line. Program funding category — Procurement.

#### Production Readiness

The state or condition or preparedness of a system to proceed into production. A system is ready for production when the producibility of the production design and the managerial and physical preparations necessary for initiating and sustaining a viable production effort have progressed to the point where a production commitment can be made without incurring unacceptable risks that will breach thresholds of schedule, performance, cost, or other established criteria.

#### Production Readiness Review (PRR)

A formal examination of a program to determine if the design is ready for production, production engineering problems have been resolved, and the producer has accomplished adequate planning for the production phase. Performed toward the end of FSD. (Defense Systems Management College)

#### **Product Manager**

The individual, designated by a materiel developer, who is delegated authority and assigned responsibility for centralized management of a development/acquisition program that does not qualify for system/program/project management.

### Product Security (PRODSEC)

That physical security provided for selected DoD products (major, high cost, politically sensitive systems with significant military value) at Department of Defense contractor facilities to mitigate the risk of the government as a self-insurer. Defining and instituting product security during production are essential to the delivery of uncompromised systems.

#### **Prograde Orbit**

An orbit having an inclination of between 0° and 90° with the object moving in an easterly direction. (See Retrograde Orbit.)

#### **Program**

A DoD acquisition program.
 As a verb, schedule funds to meet requirements and plans.
 A major, independent part of a software system.
 A defined effort funded by RDT&E and/or procurement appropriations with the express objective of providing a new or improved capability in response to a stated mission need or deficiency.

# Program Acquisition Cost

The estimated cost of development (RDT&E), procurement, and system specific military construction (MILCON) necessary to acquire the defense system. RDT&E costs shall be accumulated from the point in time when the DoD acquisition program is designated by title as a program element or major project within a program element. MILCON costs shall include only those projects that directly support and uniquely identify with the system.

#### **Program Baseline**

See Acquisition Program Baseline.

#### Program Budget Decision (PBD)

Secretary of Defense decision documents that affirm or change dollar amounts or manpower allowances in the services' budget estimate submissions.

### Program Change Decision

A decision by SECDEF issued in a prescribed format that authorizes changes in the structure of the FYDP.

#### Program Change Request

Prepared in a prescribed format, it is a proposal for out-of-cycle changes to data recorded in the approved FYDP.

# Program Cost Categories

- Research, Development, Test, and Evaluation. Appropriations to fund the
  efforts performed by contractors and government activities, including
  procurement of end items, weapons, material, components, materials and
  services required for the development of equipment, material, computer
  application software, and its development and initial operational test and
  evaluation. RDT&E also funds the operation of dedicated R&D installations
  activities for the conduct of R&D programs.
- Procurement. Appropriations to fund those acquisition programs that have been approved for production, and all costs integral and necessary to deliver a useful end item intended for operational use or inventory upon delivery.
- Operations & Maintenance. Appropriations to fund expenses such as civilian salaries, travel, minor construction projects, operating military forces, training and education, depot maintenance, stock funds, and base operations support.
- 4. <u>Military Personnel</u>. Appropriations to fund costs of salaries and other compensation for active and retired military personnel and reserve forces based on end strength.
- 5. Military Construction. Appropriations to fund major projects such as bases, schools, missile storage facilities, maintenance facilities, medical/dental clinics, libraries, and military family housing.

Costs budgeted in the O&M and Military Personnel appropriations are considered expenses. Costs budgeted in the Procurement and Military Construction appropriations are considered investments. Costs budgeted in the RDT&E and Family Housing appropriations include both expenses and investments.

### Program Decision Memorandum (PDM)

SECDEF's approval of Military Department or Defense Agency POM with tentative specific guidance. Issued in July every two years during biennial PPBS.

# Program Element (PE)

The 11 major force elements are subdivided into Program Elements. The program element is the basic building block of the FYDP. It is defined as "an integrated combination of men, equipment and facilities which together constitute an identifiable military capability of support activity." It identifies the mission to be undertaken and the organizational entities to perform the mission. Elements may consist of forces, manpower, materiel, services, and/or associated costs. The PE consists of seven digits ending with a letter indicating appropriate service.

#### Program Element Monitor (PEM)

Person within HQ USAF office who is directly responsible for a given program and all documentation needed to harmonize the program in the budget.

### Program Evaluation Review Technique

A technique for management of a program through to completion by constructing a network model of integrated activities and events and periodically evaluating the time/cost implications of progress.

Program
Executive Officer
(PEO)

A military or civilian official who has primary responsibility for directing several acquisition category I programs and for assigned Acquisition Category II, III, and IV programs. A Program Executive Officer has no other command or staff responsibilities within the Component, and only reports to and receives guidance and direction from the DoD Component Acquisition Executive.

Program Management The process whereby a single leader and team are responsible for planning, organizing, coordinating, directing, and controlling the combined efforts of participating/assigned civilian and military personnel and organizations in accomplishing program objectives. Provides centralized authority, responsibility, and point of contact for a specific acquisition program.

Program
Management
Agreement (PMA)

The guiding agreement between the BMDAE and the SAEs covering the broad objectives, funding, and expectations of each Service with respect to a specific BMDO-funded activity.

Program Management Plan The document developed and issued by the program manager which shows the integrated multi-functional time-phased actions and resources required to complete the task.

Program Manager (PM)

A military or civilian official who is responsible for managing an acquisition program.

**Programmatic** 

Pertaining to the cost, schedule, and performance characteristics of an acquisition program.

Program
Objectives
Memorandum
(POM)

An annual memorandum in prescribed format submitted to the SECDEF in May by the DoD Component Head, which recommends the total resource requirements and programs within the parameters of the SECDEF's fiscal guidance. A major document in the PPBS; it ultimately becomes the Component's budget.

Program/Project Integrator (PI) The BMDO staff member assigned responsibility for integrating all tasks within a project. Single point-of-contact for information and activities involving a BMDO technology, NMD planning, or a TMD acquisition project.

**Programming** 

The projection of activities to be accomplished and the resources that will be required for a specified period in the future. The process of preparing a program, especially in terms of quantitative, physical requirements, manpower, materiel, and facilities. The process of establishing and maintaining a program.

**PROGRUS** 

Program Update Studies.

**Project** 

1. Synonymous with program in general usage. 2. Specifically, a planned undertaking having a finite beginning and ending, involving definition, development, production, and logistics support of a major weapon or weapon support system or systems. A project may be the whole or a part of a program. Within the Navy, a Designated Project is a project which, because of its importance or critical nature, has been selected for intensified project management. 3. A planned undertaking of something to be accomplished, produced, or constructed, having a finite beginning and a finite ending.

**Project Office** 

The office of the program manager and the point of contact with industry, government agencies, and other activities participating in the system acquisition process. (USASSDC) (Note: USAF uses the term System Program Office).

Project Planning Guidance (PPG) High level summary document that defines the work to be performed by each Executing Agent in support of the BMD program.

Project Summary Work Breakdown Structure (WBS) A summary WBS tailored to a specific defense materiel item by selecting applicable elements from one or more summary WBSs or by adding equivalent elements unique to the project (MIL-STD-881A).

Proliferation (Nuclear Weapons) The process by which nations sequentially come into possession of, or acquire the right to determine the use of, nuclear weapons, thus enabling each to launch a nuclear attack upon another nation.

Proof of Principle (POP)

Technical demonstration and troop experimentation conducted with brassboard configuration, subsystems, or surrogate systems, using troops in a realistic field environment. The process examines the organization and operational concept, provides data to improve requirements and evaluation criteria, and provides data on which to base the decision to enter EMD (Army).

**Proprietary Right** 

A broad contractor term used to describe data belonging to the contractor. This data could be intellectual property, financial data, etc. This category is not recognized by the Government when referencing technical data. (Defense Systems Management College Glossary)

Protection Priorities The aggregated value for each impact point prediction specifying the order of protection.

PRR

See Production Readiness Review.

**PSC** 

Principle Subordinate Command.

PSE

Peculiar Support Element.

PSN

Packet Switching Node.

PSP

Program Support Plan.

**PSYOP** 

Psychological Operations.

**PSW** 

Packet Switching.

PSS

Passive Sensor System.

PtSi

Platinum Silicide.

PTWG

Producible Technology Working Groups.

**Pulse Duration** 

In radar, measurement of pulse transmission time in microseconds, that is, the time the radar's transmitter is energized during each cycle.

Pulse Repetition Frequency In radar, the number of pulses the occur each second. Not to be confused with transmission frequency which is determined by the rate at which cycles are repeated within the transmitted pulse.

Pulsed Power EMR

Radiated fields that have very high instantaneous peak field strengths or power density but significantly lower average values.

**Pumping** 

The raising of the molecules or atoms of a lasant to an energy state above the normal lowest state to produce laser light. This results when they fall back to a lower state. Pumping may be done using electrical, chemical, or nuclear energy.

Purchase Order (PO)

A contractual procurement document used primarily to procure supplies and nonpersonal services when the aggregate amount involved in any one transaction is relatively small (e.g., not exceeding \$10,000).

**PV HCT** 

Photovoltaic Mercury Cadmium Telluride.

PVO (PVO Strany)

Russian organization formerly responsible for the air and space defense of their homeland.

Wq

Picowatt.

**PWBS** 

Program Work Breakdown Structure.

PY

Prior Year.

**Pyrotechnic** 

A mixture of chemicals which, when ignited, is capable of reacting exothermically to produce light, heat, smoke, sound, or gas, and may be also used to introduce a delay into an explosive train because of its known burning time. The term excludes propellants and explosives.

QΑ

Quality Assurance.

σc

Quality Control.

QFR

Question for Record.

QΜ

1. Queen Match. 2. Quartermaster.

QRA

1. Quartz Resonant Accelerometer 2. Quick Reaction Alert.

QRC

Quick Reaction Capability.

QRM

Quick Response Missile.

ORP

Quick Response Program (PATRIOT).

QRS

Quartz Resonant Sensor.

**Qualification Test** 

This test simulates defined environmental conditions with a predetermined safety factor, the results indicating whether a given design can perform its function within the simulated environment of a system. The test usually is not conducted on models using production tooling and processes.

Query

A request for identification of a set of assets, expressed in terms of a set of criteria which the identified item must satisfy.

Queue

A store for a sequence of packets, or messages, which are waiting to be processed. A transmit queue for instance is a store of packets waiting to be

transmitted.

 $\mathbb{R}^2$ 

1. Recovery and Reconstitution. 2. Reporting Responsibility.

R<sup>2</sup>P<sup>2</sup>

Rapid-Retargeting/Precision Pointing (simulator).

RAA

See Risk Approval Authority.

RAD

1. Radiation Absorbed Dose. 2. Radiation Accumulated Dose.

Radar

(Formerly an acronym for Radio Detection and Ranging.) A technique for detecting targets in the atmosphere or in space by transmitting radio waves (e.g., microwaves) and sensing the waves reflected by objects. The reflected waves (called "returns" or "echoes") provide information on the distance to the target and the velocity of the target, and also may provide information about the shape of the target.

Radar Beacon

A receiver-transmitter combination which sends out a coded signal when triggered by the proper type of pulse, enabling determination of range and bearing information by the interrogating station or aircraft.

Radar Cross Section (RCS) Area of an object as scanned by a radar; measured in square meters.

**Radar Netting** 

The linking of several radars to a single center to provide integrated target information.

RADC

1. Region Air Defense Commander. 2. OBSOLETE. Rome Air Development Center. (Now called Rome Laboratory.)

RADHAZ

1. Electromagnetic Radiation Hazard. 2. Hazards form electromagnetic radiation.

Radiant Exposure

The total amount of thermal radiation energy received per unit area of exposed surface; it is usually expressed in calories per square centimeter.

Radiation

1. The emission and propagation of waves transmitting energy through space or through some medium; for example, the emission and propagation of electromagnetic, sound, or elastic waves. 2. The energy transmitted by waves through space or some medium; when unqualified, usually refers to electromagnetic radiation. Also known as radiant energy. 3. A stream of particles, such as electrons, neutrons, protons, alpha-particles, or high-energy photons, or a mixture of these. (See Ionizing Radiation, Nuclear Radiation, and Thermal Radiation.)

Radiation Hardening Protection of a particular system, subsystem, or component from functional damage due to the effects of nuclear (or other) radiation by shielding the vulnerable components from the radiation, or using other passive techniques in manufacturing effects of nuclear (or other) radiation.

RADINT

Radar Intelligence.

Radioactive (or Nuclear) Cloud An all-inclusive term for the volume of hot gases, smoke, dust, and other particulate matter from the nuclear weapon itself and from its environment, that is carried aloft in conjunction with the rising fireball produced by the detonation of a nuclear weapon.

Radioactivity

The spontaneous emission of radiation, generally alpha or beta particles, often accompanied by gamma rays, from the nuclei or an unstable isotope.

Radio Blackout (RBO) The complete disruption of radio (or radar) signal over large areas caused by the ionization accompanying a high altitude nuclear explosion, especially above about 40 miles.

RADOT

Recording Automatic Digital Optical Tracker.

Rail Gun (RG)

A weapon using metallic rails and electromagnetic energy to fire hypervelocity projectiles.

RAM

1. See Reliability, Availability, and Maintainability. 2. Random Access Memory

R&D

Research and Development.

R&M

See Reliability and Maintainability.

Random Defense

Engagement of RVs uniformly without any reference to type or destination. This implies taking the best shot possible in terms of increasing probability to kill.

Range Resolution

The difference between the true distance (from sensor) to target and the calculated distance to target based on sensor data, at maximum sensor range.

RAPTOR

Responsive Aircraft Program for Theater Operations. A high-altitude, long endurance airborne sensor platform.

RAPTOR/TALON

A technology demonstration program to demonstrate critical technologies for an unmanned airborne weapons system providing a boost phase intercept capability.

Rationalization

Any action that increases the effectiveness of allied forces through more efficient or effective use of defense resources committed to the alliance. Rationalization includes consolidation, reassignment of national priorities to higher alliance needs, standardization, specialization, mutual support or improved interoperability, and greater cooperation. Rationalization applies to both weapons/material resources and non-weapons military matters.

RB

Reentry Body.

RBO

See Radio Blackout.

RCM

1. Reliability Centered Maintenance. 2. Requirements Correlation Matrix (AF).

RCS

See Radar Cross Section.

RCSR

Radar Cross Section Reduction.

RCU

1. Rate Changes Unit. 2. Remote Control Unit.

RCVR

Receiver.

RDA

Research, Development and Acquisition.

RDEC

Research, Development, and Engineering Center.

RDS

See Regional Defense System.

RDT&E

See Research, Development, Test, and Evaluation.

### RDT&E Program Categories

The five divisions the comprise Major Force Program 06 (R&D) in the FYDP. They are:

- 6.1 Basic Research
- 6.2 Exploratory Development
- 6.3 Advanced Development
- 6.4 Engineering Development
- 6.5 Management and Support.

Operational System development, not a designated category, is funded in RDT&E appropriations but not in Major Force Program 06.

#### **Reaction Decoy**

A decoy deployed only upon warning or suspicion of imminent attack.

#### Readiness Postures

A specific status defining the relative responsiveness of BMD assets and personnel to perform a USSPACECOM BMD mission.

#### **Real Time**

1. Pertaining to the processing of data by computer in connection with another process outside the computer according to time requirements improved by the outside process. This term is used to describe systems operating in conversational mode, and processes that can be influenced by human intervention, while they are in progress. 2. Pertaining to the actual time during which a physical process transpires, for example, the performance of a computation during the actual time that the related physical process transpires, in order that results of the computation can be used in guiding the physical process.

#### Real World Data

Data derived from physical experimentation concerning phenomenology associated with technical functioning of SDS, particularly regarding target signatures, background observables, sensor functions, weapon functions, and survivability.

### Real World Data Collection

The provision, to SEIC users, of access to real world data, in fashion timely and otherwise suitable to meet users' needs (e.g. for validation of a test bed).

#### Rescission

An action by the President canceling budget authority previously appropriated but not yet obligated or spent. If both Houses of Congress do not approve the proposed rescission within 45 days, the President must obligate the BA as intended by Congress.

RECCE

Reconnaissance.

Reclama

A formal appeal to the service comptroller of SECDEF's tentative budget

decision on the service budget estimates.

RECON

Reconnaissance.

Reconciliation

Directives to standing committees contained in congressional budget resolutions calling for certain dollar savings and a deadline for reporting legislation to achieve the savings. Omnibus reconciliation bill incorporating these changes is introduced and acted on in both houses.

Reconstitute

To restore, during periods of hostile engagements or during peacetime, military forces or elements as closely as possible to a desired state of readiness for combat.

Red/Blue Exchange A process to identify and define potential countermeasures that would degrade aspects of ballistic missile defense. The process -- akin to a wargame -- pits a Red team fielded by DSIM and a Blue team fielded by AQ. A senior review panel acts as the referee.

Redout

The degradation of infrared sensor resolution due to high-altitude nuclear bursts. Radiation from these bursts causes fluorescence-emission of light from air molecules. The emitted light lies within the long-wave IR spectrum so the atmosphere below appears to the sensor to glow more brightly than usual.

Redundancy

The inclusion of duplicate or alternate system elements to improve operational reliability by ensuring continued operation in the event that a primary element fails.

Reengineering

The process of examining, altering, and re-implementing an existing computer system to reconstitute it in a new form.

Reentry

The return of objects, originally launched from earth, into the atmosphere.

Reentry Angle

Elevation angle of velocity vector relative to local horizontal plane when reentering object reaches 92km.

**Reentry Phase** 

That portion of the trajectory of a ballistic missile or space vehicle where there is a significant interaction of the vehicle and the earth's atmosphere.

Reentry Vehicle (RV)

1. Reentry vehicles are objects containing nuclear warheads. They are released from the last stage of a booster rocket or from a post-boost vehicle early in the ballistic trajectory. They are thermally insulated to survive rapid heating during the high velocities of reentry into the atmosphere, and are designed to protect their contents until detonation at their targets. 2. That part of a space vehicle designed to re-enter the Earth's atmosphere n the terminal portion of its trajectory.

Regional Defense System (RDS) That portion of the SDS that provides defense for a specific geographic region, such as the European Theater.

Regional Operations Center (ROC) A group of fixed and/or mobile centers with OPCON over allocated ground based sensors and weapons.

Regional
Operations
Control Center
(ROCC)

The command function for CONUS, Canadian and Alaska NORAD Regions, referred to as "regions." In the Alaska NORAD region, the ROCC is also the central intelligence, communications and operations control center established for the purpose of supervising and coordinating the combat effort of all air defense forces made available to the Alaska NORAD region commander. Under normal operating conditions (not degraded), the ROCC is responsible for the identification function and for air and ballistic missile defense of North America.

Regrade

To determine that certain classified information requires, in the interests of national security, a higher or lower degree of protection against unauthorized disclosure than currently provided, coupled with a changing of the classification designation to reflect such higher or lower degree.

Relay Mirror

Part of a ground-based laser system.

Reliability and Maintainability (R&M)

Reliability and maintainability design parameters are key factors in the design of affordable and supportable systems. R&M parameters provide inputs into the design and LSA processes that quantitatively link system readiness to the ILS elements. One of the principal elements of ILS.

Reliability, Availability, and Maintainability (RAM) Those requirements imposed on acquisition systems to ensure they are operationally ready for use when needed, will successfully perform assigned functions, and can be economically operated and maintained within the scope of logistics concepts and policies. RAM programs are applicable to materiel systems, test measurement and diagnostic equipment, training devices, and facilities developed, produced, maintained, procured, or modified for use. (See individual definitions for Reliability, Availability, and Maintainability.)

Remotely Piloted Vehicle (RPV)

An unmanned vehicle capable of being controlled from a distant location through a communication link. It is normally designed to be recoverable. See also Drone.

Repairability

The probability that a failed system will be restored to operable condition within a specified active repair time.

Repeater-Jammer

A receiver transmitter device that amplifies, multiplies and retransmits the signals received, for purposes of deception or jamming.

Report Back

Information returned from system elements that verify that directions have been received and carried out. Also includes information regarding system effectiveness.

Reprogrammable Time

Time required to retarget an alert missile.

Reprogramming

The transfer of funds between program element or line items within an appropriation for purposes other than those contemplated at the time of appropriation. Reprogramming is generally accomplished pursuant to consultation with and approval by appropriate congressional committees.

#### Request for Proposal (RFP)

A solicitation used in negotiated acquisition to communicate government requirements to prospective contractors and to solicit proposals.

#### Request for Quotation

A solicitation used in negotiated acquisition to communicate government requirements to prospective contractors and to solicit a quotation. A response to an RFQ is not an offer. It is informational in character.

## Required Operational Capability (ROC)

OBSOLETE. A document stating need and specific operational capability. Replaced by the Operational Requirements Document (Army, USMC). See Operational Requirements Document.

## Required Operational Characteristics

System parameters that are primary indicators of the system's capability to be employed to perform the required mission functions, and to be supported.

## Required Technical Characteristics

Quantitative system performance parameters, approved by the DoD Component, that are selected as primary indicators of technical achievement of engineering thresholds. These might not be direct measures of, but should always relate to, a system's capability to perform its required mission function and to be supported. Required technical characteristics are usually tested and evaluated by developmental testing and evaluation (DT&E) to ascertain achievement of approved goals and thresholds for these characteristics. Critical technical characteristics selected for a DAB program baseline are reviewed and further approved through the DAB process.

#### Requirements Analysis

An analysis to determine and document the need for resources to perform the agency's mission.

## Requirements Document

A document that sets forth the requirements for a system or system component; for example, a software configuration item. Typically included are functional requirements, performance requirements, interface requirements, design requirements, and development standards.

#### RESA

Research, Evaluation, and Systems Analysis simulation facility (USN), San Diego, CA.

## Research and Development Costs

Those program costs primarily associated with R&D efforts including the development of a new or improved capability to the point where it is ready for use. They include equipment costs funded under RDT&E appropriations and related military construction appropriation costs. They exclude costs that appear in the military personnel, operation and maintenance, and procurement appropriations.

Research,
Development,
Test, and
Evaluation
(RDT&E)

Activities for the development of a new system that include basic and exploratory research, advanced and engineering development, development and operational testing and the evaluation of test results. Also, an appropriation category that includes funds allocated to the FYDP major force program 6. (Defense Systems Management College)

#### Resident Space Object (RSO)

Object which is currently on-orbit and whose element set parameters are maintained by the Cheyenne Mountain Complex.

Resolution

1. The ability of a sensor to measure the separation of an image into its constituent objects so that single objects are visible and distinguishable. 2. A measurement of the smallest detail that can be distinguished by a sensor system under specific conditions.

Response Plan Selection

The continual comparison of the nature of the observed threat with the defense system capabilities and selects the best way to attack the threat in accordance with established priorities and specified strategy.

**Responsive Threat** 

The threat after taking into account modernization and countermeasures introduced to offset the capabilities of the SDS.

Restitution

The process of determining the true planimetric position of objects whose images appear on photographs.

Re-Targeting

The ability of the system to recompute the direction of sensors and/or weapons to intercept a target that was missed on the first attempt, or that was superseded by a higher priority target.

**Retrofit Action** 

Action taken to modify inservice equipment.

**Retrograde Orbit** 

An orbit having inclination of 0 to 90 degrees (See Prograde Orbit).

Reverse Engineering The process of analyzing a computer system's software to identify components and their interrelationships.

Revisit Interval

The time that elapses between successive observations of an object from a single sensor.

RF

1. See Radio Frequency. 2. Response Force.

RFI

1. Request for Issue. 2. Request for Information. 3. Radio Frequency Interference.

RFL

Radio Frequency Linac.

RFOG

Resonant Fiber Optic Gyro.

RFP

Request for Proposal.

RFQ

Radio Frequency Quadrupole (Accelerator).

RG

1. See Rail Gun. 2. Review Group.

RIBIT

Reverse Illuminated Blocked Impurity Transducer.

RICBM

Retro Intercontinental Ballistic Missile.

RINT

Unintentional Radiation Intelligence.

RISC

Reduced Instruction Set Computers.

RISCAE

RISC Ada Environment.

Risk Approval
Authority (RAA)

An individual designated by the Director, BMDO who makes risk acceptance decisions. The RAA evaluates trade-offs between threats and such factors as cost, security, survivability, and safety to achieve a functionally operational, affordable, and secure system.

Risk Assessment

The process of subjectively determining the probability that a specific interplay of performance, schedule, and cost as an objective, will or will not be attained along the planned course of action. (Defense Systems Management College)

RISTA

Reconnaissance, Intelligence, Surveillance, and Target Acquisition.

**Rivet Joint** 

RC-135 reconnaissance aircraft.

RL

Rome Laboratory, Griffiss AFB, NY. (Formerly called Rome Air Development

Center.)

RLG

Ring Laser Gyro.

RLRIU

Routing Logic Radio Interface Unit (PATRIOT).

RME

1. Relay Mirror Experiment (a satellite launched February 1990 and which reentered the atmosphere in May 1993). 2. Remote Multiplexer Encoder.

RMI

Republic of the Marshall Islands.

**RMO** 

Reflectivity.

RMP

Risk Management Plan.

RMS

1. Remote Manipulator System. 2. Root Mean Square.

ROB

Remote Operating Base.

ROBS

Rapid Optical Beam Steering (system).

Robust

Used in describing a system; indicates its ability to endure and perform its mission against a responsive threat. Also used to indicate system ability to survive under direct attack.

Robustness

1. The ability to produce correct results despite input errors. 2. The existence of coordinated, multiple capabilities that perform the same broad task/mission. Provides the BMD warfighter with sufficient flexibility to negate the specified threat with application of a variable mix of ground and space-based systems. (USSPACECOM)

ROC

1. See Regional Operations Center. 2. Required Operational Capability.

ROCC

See Regional Operations Control Center.

ROD

Record of Decision.

ROE

See Rules of Engagement.

ROM

Rough Order of Magnitude

ROW

Rest-of-World.

RP

1. Repetitive Pulse. 2. Readiness Posture.

RPV

Remotely Piloted Vehicle.

RS

Radar Set (PATRIOT).

RSI

Rationalization, Standardization, and Interoperability.

RSO

See Resident Space Object.

RST

Radar System Test (THAAD-GBR)

**RSTA** 

Reconnaissance, Surveillance, and Target Acquisition.

RSTER

Radar Surveillance Technology Experimental Radar (UHF).

RSU

Remote Switching Unit.

R/T

Receive/Transmit.

RTC

Report to Congress.

RTD

Radar Technology Demonstration.

RTG

Radioisotope Thermoelectric Generator.

RTIM

Radar Technology Identification Methodology.

RTO

Responsible Test Organization.

Rules of Engagement

(ROE)

Directives issued by competent military authority which delineate the circumstances and limitations under which United States forces will initiate

and/or continue combat engagement with other forces encountered.

RV

See Reentry Vehicle.

**RVAO** 

Reentry Vehicle Associated Objects.

**RV** Complex

A reentry vehicle and its associated objects.

**RV** Temperature

The temperature of the heat given off by the RV, that allows sensors to acquire

them.

**RWPD** 

Real Time Waveform Processing Demonstration.

RWR

Radar Warning Receiver.

RX

1. Receive. 2. Receiver.

S<sup>3</sup>E

Space-Based KEW System Simulator/Emulator.

SA

1. Situation Awareness 2. Secretary of the Army.

SAAWC

Sector Anti-Air Warfare Coordinator (USMC).

SAC

OBSOLETE. Strategic Air Command (see USSTRATCOM).

SACEUR

Supreme Allied Command, Europe.

**SACLANT** 

Supreme Allied Command, Atlantic.

SA/BM

OBSOLETE. Systems Analysis/Battle Management.

SADA

Standard Advanced Dewar Assembly.

SADM

System Acquisition Decision Memorandum (Army).

SAE

See Service Acquisition Executive.

**SAFEGUARD** 

A U.S. midcourse and terminal phase defense for ICBMs, deployed in 1975 and

deactivated in 1976 due to its limited cost effectiveness.

SAFSCOM

OBSOLETE. SAFEGUARD System Command.

SAG

Senior Advisory Group.

Saint

A satellite inspector system designed to demonstrate the feasibility of intercepting, inspecting, and reporting on the characteristics of satellites in

orbit.

SALT

Strategic Arms Limitation Talks.

Salvage Fusing

The means by which a warhead detonates when it is structurally attacked by

an interceptor. Generally used as a device for disruption of the defense.

SAM

Surface-to-Air Missile.

SAMD

Security Assistance Management Division.

SAMMES

Space Active Modular Materials Experiment.

SAMP

Single Acquisition Management Plan

SAMS

Spacecraft Assembly, Maintenance and Servicing Study.

SAMTEC

OBSOLETE. Space and Missile Systems Test Center, Vandenberg AFB, CA.

SAMTO

OBSOLETE. Space and Missile Test Organization, Vandenberg AFB, CA.

S/N

Signal to Noise.

S&T

Science and Technology.

S&TI

Scientific and Technical Intelligence.

SAO

Security Assistance Organization.

SAP

Special Access Program.

SA/PDL

Strategic Defense Ada Process Description Language.

SAR

1. See Synthetic Aperture Radar. 2. Selected Acquisition Report. 3. Special

Access Required. 4. Search and Rescue.

SAS

1. Shoot-Assess-Shoot. 2. System Architecture Study (SDI).

SASS

Space Assets Support System.

SAT

Surveillance, Acquisition and Tracking.

SATCOM

Satellite Communications.

Satellite and Missile Surveillance The systematic observation of aerospace for the purpose of detecting, tracking, and characterizing objects, events, and phenomena associated with satellites and in-flight missiles, both friendly and enemy.

Satellite Reconnaissance Intelligence gathered through collection systems involved in assessing the capabilities, methods of operation, signal intercept, photo reconnaissance, and other intelligence indications and warnings that will provide information for SDS assets.

SATKA

Surveillance, Acquisition, Tracking, and Kill Assessment.

SAW

1. Surface Acoustic Wave. 2. Satellite Attack Warning.

SAWAFE

Satellite Attack Warning and Assessment Flight Experiment.

SAW/V

Satellite Attack Warning and Verification.

SBA

1. Space-Based Assets. 2. Small Business Administration.

SBAS

1. See Space-Based Architecture Study. 2. Space-Based Acquisition System.

SBCL

Space-Based Chemical Laser.

SBD

Site BMC3 Demonstration.

SBES

Space-Based Experimental System.

SBFEL

Space-Based Free Electron Laser.

SBHE

Space-Based Hypervelocity Gun Experiment.

SBHRG

Space-Based Hypervelocity Rail Gun.

SBI

1. Space-Based Interceptor. (Replaced by Brilliant Pebbles (BP).) 2. Special

Background Investigation.

SBI-CV

OBSOLETE. Space-Based Interceptor - Carrier Vehicle.

SBIR

1. Space-Based Infrared. 2. Small Business Innovative Research.

SBIRS

Space Based Infrared System.

SBIS

1. Space-Based Imaging Satellite. 2. Space-Based Interceptor System.

SBKEW

Space-Based Kinetic Energy Weapon.

SBKKV

OBSOLETE. Space-Based Kinetic Kill Vehicle.

SBKV

Space-Based Kill Vehicle.

SBL

Space-Based Laser.

SBM

Space-Based Battle Manager.

SBNPB

Space-Based Neutral Particle Beam.

SBNPBW

Space-Based Neutral Particle Beam Weapon.

SBPB

Space-Based Particle Beam.

SBR

Space-Based Radar.

SBSS

Space-Based Surveillance System.

SBWAS

Space-Based Warning System.

SC

See System Center.
 System Concept.
 Simulation Center.
 System Controller.

Scaling Law

A mathematical relationship which permits the effects of a nuclear (or atomic) explosion of given energy yield to be determined as a function of distance from the explosion (or from ground zero), provided the corresponding effect is known as a function of distance for a reference explosion (e.g., of 1-kiloton energy yield).

Scan

In an electro-magnetic or acoustic search, one complete rotation of the antenna.

Scattering

The diversion of radiation, including radio, radar, thermal, and nuclear, from its original path as a result of interactions (or collisions) with atoms, molecules, or larger particles in the atmosphere or other medium between the source of the radiations (e.g., a nuclear explosion) and a point at some distance away. As a result of scattering, radiation (especially gamma rays and neutrons) will be received at such a point from many directions instead of only from the direction of the source.

Scan Type

The path made in space by a point on the radar beam; for example, circular,

helical, conical, spiral, or sector.

SC/BM

System Concepts/Battle Management.

SCCB

See System Configuration Control Board.

SCC

Space Control Center.

SCDL

Surveillance Control Data Link.

SCE

Submunition Chemical Experiment.

SCF

Satellite Control Facility.

SCG

Security Classification Guide.

SCMP

Software Configuration Management Board.

SCN

1. Specification Change Notice. 2. Ship Construction and Conversion (Navy).

3. Space Communications Network.

**SCOPA** 

Survivable Concentrating Photovoltaic Array.

SCORE

Scientific Cooperative Research Exchange (US-UK). A science exhange to

investigate theater missile defense related issues.

SCP

See System Concept Paper.

SCUD

Surface-to-Surface Missile System.

SDB

System Design Board.

SDCC

Strategic Defense Command Center.

SDB

System Design Board.

SDCV

Shuttle Derived Cargo Vehicle.

SDD

System Description Document.

SDF

Self Defense Force.

SDI

OBSOLETE. Strategic Defense Initiative.

SDIAE

OBSOLETE. SDI Acquisition Executive. (Retitled BMD Acquisition Executive

(BMDAE).)

SDIARC

OBSOLETE. Strategic Defense Initiative Acquisition Review Council.

SDII

OBSOLETE. SDI Institute.

SDIO OBSOLETE. Strategic Defense Initiative Organization. (Predecessor

organization to Ballistic Missile Defense Organization (BMDO).)

SDIP OBSOLETE. Strategic Defense Initiative Program. (Predecessor program to

Ballistic Missile Defense Program.)

SDISM OBSOLETE. SDI Simulation.

SDL Software Development Library.

SDLS Satellite Data Link Standard(s).

SDP Software Development Plan.

SDR See System Design Review.

SDS See Strategic Defense System.

SDS-CC Strategic Defense System - Command Center.

SDSD Strategic Defense System Description.

SDS Element A stand alone system (e.g., a weapon or satellite) which is the smallest entity

capable of performing a designated function with specified results within the

Strategic Defense System.

SDS-OC Strategic Defense System - Operations Center.

SE See Systems Engineering.

SE&I Systems Engineering and Integration.

SEAD Suppression of Enemy Air Defenses.

Search, Active Illuminate an assigned volume of space with electromagnetic energy and collect

reflected radiation.

Search, Passive Collect radiation from an assigned volume of space.

SECC See Survivable and Enduring Command Center.

SECNAV Secretary of the Navy.

SECNAVINST Secretary of the Navy Instruction.

Secondary Station A station that has been selected to receive a transmission from the primary

station. The assignment of secondary status is temporary, under control of the

primary station, and continues for the duration of a transmission.

Second Strike The ability to survive a first strike with sufficient resources to deliver an effective counterblow (generally associated with nuclear weapons).

Security Architecture The portion of the baseline SDS architecture that is responsible for preserving the confidentiality, integrity, and assured service of any of the sensitive, system-valued functions and information elements (assets).

Security Criteria

The set of requirements that should be met so the security system can provide a maximum degree of effective deterrence at the lowest cost.

Security Level

The combination of hierarchical classification and a set of non-hierarchical categories that represents the sensitivity of information.

**Security Policy** 

The set of laws, rules, and practices that regulate how an organization manages, protects, and distributes sensitive information.

Security Policy Model An informal presentation of a formal security policy model.

Security Program

The implementation of formal security policies and procedures established by DoD and other departmental publications to secure vital components of weapon systems and essential direct support systems from enemy hostile operations and other forms of ground attack.

Security Relevant Event Any event that attempts to change the security state of the system. Also, any event that attempts to violate the security policy of the system.

Security Subsystem That part of a weapon or defense system which is added specifically for the performance of security functions and not categorized as components of other subsystems.

Security System

The aggregate of all mechanical and electronic equipment countermeasures in a system which contributes to its security from intelligence gathering and clandestine or overt attack, including organized system function and procedures, as well as the security subsystem.

**Security Testing** 

A process used to determine that the security features of a system are implemented as designed and that they are adequate for a proposed application environment.

SEDS

System Engineering Detailed Schedule

SEE

Software Engineering Environment.

SEER

Sensor Equipment Evaluation and Review.

SEFC

See Space Environment Forecast Center.

Segment

A grouping of elements that are closely related and often physically interface. It consists of CIs produced by several contractors and integrated by one.

SEIC

Systems Engineering and Integration Contractor.

Selected Acquisition Reports (SAR) Standard, comprehensive, summary status reports on major defense acquisition programs (ACAT I) required for periodic submission to Congress.

Selective,

**Adaptive Defense** 

Selective, adaptive defense assigns interceptors to RVs based upon defended asset values, the number of arriving RVs and time to impact.

Selective Kill

Assigns interceptors to targets on the basis of missile type, launch area, impact area, time of launch/arrival or predicted threat utility (e.g., SS-18 or its followon).

Selectivity

Refers to choosing a subset of targets either for attack or defense. (See Preferential Defense and Preferential Offense.)

SEMA

Special Electronics Mission Aircraft.

Semi-Active
Homing Guidance

A system of homing guidance wherein the receiver in a missile utilizes radiations from a target which has been illuminated by an outside source.

Semi-Active Sensor

One that does not generate radiation itself, but that detects radiation reflected by targets when they are illuminated by other BMD components. Such devices are used for tracking and identification and can operate without revealing their own locations.

SEMP

See Systems Engineering Management Plan.

SEMS

System Engineering Management Schedule.

Senior Procurement Executive (SPE) The senior official responsible for management direction of the Service procurement system, including implementation of unique procurement policies, regulations, and standards. The Senior Procurement Executive for all non-Service DoD Components is the Under Secretary of Defense for Acquisition and Technology, who has delegated many of these functions to the Heads of Defense Agencies including the Director, BMDO.

SENSCOM

Sentinel System Command.

**Sensor Data** 

Measurement information. For a passive sensor it is usually irradiance time, and LOS. For an active sensor it may include range, doppler, cross section,

etc., as well.

Sentinel

ABM system designed for light area defense against a low level ballistic missile attack on the United States. Developed into the Safeguard system in late 1960's.

SEO

Survivability Enhancement Option.

SEP

Signal Entrance Panel.

Separation Hardware Objects expelled during payload separation sequence.

SEPRD

System Element Production Readiness Demonstration.

#### Sequestration

The reduction or cancellation of new budget authority; unobligated balances, new loan guarantee commitments or limitations; new direct loan obligations, commitments, or limitations; spending authority; and obligation limitations. As delineated in the Budget Enforcement Act of 1990, sequestration is necessary if legislation is enacted that would cause spending in any appropriations category to exceed a specified cap.

Service Acquisition Executive (SAE) See definition of DoD Component Acquisition Executive.

Service BMD
Program
Executive Officer
(PEO)

A senior official responsible for execution of Service PMAs and for providing guidance and Service-related direction to subordinate Program Managers. The PEO will also serve as a deputy to the GM. (Consistent with PEO authorities and responsibilities documented in DoDD 5000.1 and DoDI 5000.2.)

Service Component Command A command consisting of the Service component commander and all those individuals, units, detachments, organizations and installations under the command that have been assigned to the unified command.

Service Life Extension Program (SLEP) Modification(s) to fielded systems undertaken to extend the life of the system beyond what was previously planned.

Service Test

A test of an item, system, or technique conducted under simulated or actual operational conditions to determine whether the specific military requirements or characteristics are satisfied.

SETA

Scientific, Engineering, and Technical Assistance.

**SETAC** 

Systems Engineering and Technical Assistance Contractor.

SETP

Solar Electric Aircraft Test Platform.

**SEWS** 

Satellite Early Warning System.

SFC

See Space Forecast Center.

SFS

Shoot-Fail-Shoot.

SGEMP

System/Source Generated Electromagnetic Pulse.

SGLS

Space/Ground Link Subsystem.

SHAPE

Supreme Headquarters Allied Powers Europe.

SHF

Super High Frequency.

#### **Shielding**

Any material or obstruction which absorbs (or attenuates) radiation and thus tends to protect personnel or materials from the effects of a nuclear explosion. A moderately thick layer of any opaque material will provide satisfactory shielding from thermal radiation, but a considerable thickness of material of high density may be needed for nuclear radiation shielding. Electrically continuous housing for a facility, area, or component, attenuates impinging electric and magnetic fields.

#### Shoot-Back

The technique of defending a space asset by shooting at an attacker.

#### Shoot-Look-Shoot

(SLS)

A tactic used to achieve Defense Engagement Options (DEOs), such as assured kill by shooting at the target, looking to see if it was killed, and shooting again, if necessary, to achieve the kill.

#### SHORAD

Short-Range Air Defense.

#### Short Range Ballistic Missile (SRBM)

A ballistic missile with a range capability of 30 km to 1,000 km. (USSPACECOM)

## Short Wavelength Infrared (SWIR)

Thermal radiation emitted by a source in the electromagnetic spectrum encompassing infrared wavelengths of 0.75 to 3 microns.

#### Shrouded RVs

Reentry vehicles enclosed in a material designed to shield its thermal and other characteristics.

#### SIC

Standard Industrial Classification.

#### **Sidelobes**

Residual EMR surrounding the main beam, which is of weaker power than the main beam.

#### SIE

SATKA Integrated Experiment.

#### SIF

1. System Integration Facility; 2. Selective Identification Feature

### Signals Security (SIGSEC)

The overall program for communication and electronic security.

#### Signal-to-Noise Ratio (S/N) (SNR)

Relative power of the signal to the noise in a channel; usually measured in decibels.

#### Signature

1. Distinctive type of radiation emitted or reflected by a target, which can be used to identify that target; 2. The characteristic pattern of a target displayed by detection and identification equipment.

#### Signature Histories

A list of observed target signature characteristic parameter values as a function of missile flight time used for target discrimination and kill assessment.

#### SIGSEC

See Signals Security.

SIL

Systems Integration Laboratory; Sunnyvale, CA.

### Simple Security Condition

A Bell-LaPadula security model rule allowing a subject read access to an object only if the security level of the subject dominates the security level of the object.

#### Simulation

A simulation is a method for implementing a model. It is the process of conducting experiments with a model for the purpose of understanding the behavior of the system modeled under selected conditions or of evaluating various strategies for the operation of the system within the limits imposed by developmental or operational criteria. Simulation may include the use of analog or digital devices, laboratory models, or "testbed" sites. Simulations are usually programmed for solution on a computer; however, in the broadest sense, military exercises and wargames are also simulations.

#### Simulator

A generic term used to describe a family of equipment used to represent threat weapon systems in development testing, operational testing, and training. A threat simulator has one or more characteristics which, when detected by human senses or man-made sensors, provide the appearance of an actual threat weapon system with a prescribed degree of fidelity.

#### SINCGARS

Single-Channel and Airborne Radio System.

#### Single Integrated Operational Plan (SIOP)

Plan by which the nuclear strategic offensive forces will retaliate when directed by the NCA.

### Single-Level Device

A device that is used to process data of a single security level at any one time. Since the device need not be trusted to separate data of different security levels, sensitivity labels do not have to be stored with the data being processed.

#### Singlet

A space vehicle, such as a Brilliant Pebble, which contains only one intercept vehicle.

#### SIOP

See Single Integrated Operational Plan.

#### SIRE

Space Infrared Experiment.

#### SIRMR

Senior Information Resources Management Representative.

#### SIT

System Integration Test.

#### Situation Assessment

The determination of the extent to which observed event(s) constitute a threat (e.g., isolated event, mass attack, etc.), using the attack characterization information.

#### Six Year Defense Program (SYDP)

The official DoD document which summarizes forces and resources associated with programs approved by SECDEF. Its three parts are the organizations affected, appropriations accounts (RDT&E, operations & maintenance, etc.), and the 10 major force programs (strategic forces, airlift/sealift, R&D, etc.). R&D is Program 6. Under the annual PPBS cycle, SYDP is published normally three times: October, January and May. The primary data element in SYDP representing aggregation of organizational entities and related resources is the program element.

Size of Threat

Corridor

(LxWxAltitude) A volume of space in which a particular group of RVs would

occupy, defined by launch location and designated target area.

SKKP

(Former) Soviet system of outer space monitoring.

Skunkworks

A separate program management operation established to operate outside the normal process, either to expedite development or because of high security

classification.

SL

Sea Level.

SLAM

Stand-off Land Attack Missile.

SLAR

Side Looking Airborne Radar.

Slave

A remote system or terminal whose functions are controlled by a central "master" system. It is similar in concept to a host system in that it responds to remotely generated requests, but unlike a host system, is usually capable of

performing a limited range of operations.

SLBD

Sea Lite Beam Director.

SLBM

See Submarine-Launched Ballistic Missile.

SLC

Space Launch Complex.

SLCM

Sea-Launched Cruise Missile.

SLD

System Link Designator.

Slew Time

The time needed for a weapon/sensor/antenna to move from point to point.

**SLKT** 

Survivability, Lethality, and Key Technology.

SLOC

Sea Line of Communication.

SLS

See Shoot-Look-Shoot.

SM-2

Standard Missile-2. (U.S. Navy)

**Small Optics** 

Precision mirrors or refractors, less than 1 meter, and related technology, for precise pointing and tracking from/to relatively small vehicles separated by large

distances.

**Smart Munitions** 

Munitions that "think for themselves" and have the self-contained ability to

search, detect, acquire and engage targets.

SMATH

Space Materials Advanced Technology for Hardness.

SMC

Space and Missile System Center.

SMD

Strategic Missile Defense.

SMES

Super Conducting Magnetic Energy Storage.

**SMMW** 

Submillimeter Wave.

SMS

See Standard Mobile Segment.

SMTS

See Space and Missile Tracking System (formerly called Brilliant Eyes).

S/N

1. See Signal-to-Noise Ratio (Also called SNR). 2. Serial Number.

SNDM

Secretary of the Navy Decision Memorandum.

SNDV

Strategic Nuclear Delivery Vehicle.

SNF

Strategic Nuclear Forces.

SNIPE

OBSOLETE. SDI System Network Processor Engine.

SNL

Sandia National Laboratory, Albuquerque, NM.

SSN

Space Surveillance Network.

SNR

See Signal-to-Noise Ratio (Also called S/N).

SOA

1. State-of-the-Art. 2. Speed of Advance.

SOF

1. See Strategic Offense Forces. 2. Special Operations Forces.

SOFA

Status of Forces Agreement.

#### Software **Architecture**

The implementation of solutions to the problems in the domain. It becomes a model for constructing applications and mapping requirements from the domain model to reusable components. A generic architecture provides a high-level generic design for a family of related applications as well as a set of components intended for any instance of that application. The generic design eliminates the need to develop a high-level design for each application within the domain. As a result, domain developers use these representations as specifications for reusable components.

#### Software **Development** Cycle

1. The period of time that begins with the decision to develop a software product and ends when the product is delivered. This cycle typically includes a requirements phase, design phase, implementation phase, test phase, and sometimes, installation and checkout phase. Contrast with software life cycle. 2. The period of time that begins with the decision to develop a software

product and ends when the product is no longer being enhanced by the developer. 3. Sometimes used as a synonym for software life cycle.

#### Software **Documentation**

Technical data or information, including computer listings and printouts, in human-readable form, that describe or specify the design or details, explain the capabilities, or provide operating instructions for using the software to obtain desired results from a software system. (See Documentation.)

#### Software Engineering

1. A discipline whose objectives are to define, create, and apply a well-defined methodology that addresses a software life cycle of planning, development, and maintenance. 2. The application of a systematic, disciplined, quantifiable approach to the development, operation, and maintenance of software, that is, the application of engineering to software.

## Software Life Cycle

The period of time that begins when a software product is conceived and ends when the software is no longer available for use. The software life cycle typically includes a concept phase, requirements phase, design phase, implementation phase, test phase, operation and maintenance phase, and, sometimes, retirement phase.

#### Software Support

The sum of all activities that take place to ensure that implemented and fielded software continues to fully support the operational mission of the system. Software support includes pre-deployment software support and post-deployment software support.

### Software Test

A set of automated tools, firmware devices, and hardware necessary to test software. The automated tools may include but are not limited to test tools such as simulation software, code analyzers, test case generators, path analyzers, etc. and may also include those tools used in the software engineering environment.

SOI

1. Silicon-on-Insulator. 2. See Space Object Identification.

SOIF

See System Operation and Integration Functions.

## Soldier-Machine Interface

Considerations through system analysis and psychophysiology of equipment designs and operational concepts, to ensure they are compatible with capabilities and limitations of operators and maintainers.

#### Sole Source Acquisition

A contract for the purchase of supplies or services that is entered into a proposal to be entered into by an agency after soliciting and negotiating only one source.

SOP

See Standard Operating Procedure.

SOS

Silicon-on-Sapphire.

#### Source Selection Authority

The official designated to direct the source selection process, approve the selection plan, select the source(s), and announce contract award.

#### Source Selection Evaluation Board

A group of military and/or government civilian personnel, representing functional and technical disciplines. It is charged with evaluating proposals and developing summary facts and findings during source selection.

## Source Selection Plan (SSP)

A formal written document which sets forth the source selection organization and management chain for a specific acquisition. It provides a guide for evaluators on how to conduct the evaluation, it details the criteria to be used to evaluate the offers received in a competition procurement, and it establishes a basis upon which to distinguish between proposals and to make an award. The SSP is written by the Program Office and approved by the SSA.

sow

See Statement of Work.

**SPACC** 

See Space Command Center.

Space and Missile Tracking System (SMTS) Space-based satellite sensors for surveillance, tracking, and discrimination of enemy objects during post-boost and midcourse phases. These sensors support ground-based interceptors for both theater and national defense.

Space-Based Architecture Study (SBAS) A 1989 study to review the space-based elements of the Phase I SDS architecture, with emphasis on Space-Based Interceptor (SBI), Brilliant Pebbles (BP), and the Space Surveillance and Tracking System (SSTS), to define and justify a recommended architecture for Phase I and beyond.

Space-Based Interceptor (SBI) OBSOLETE. A distributed set of low earth orbit satellites that may provide launch detection and booster tracking, and that serve as kinetic or kinetic energy interceptors of boosters, PBVs, and/or RVs. (USSPACECOM)

Space-Based Sensor A system that provides global above-the-horizon surveillance to detect and track PBVs, object clusters (RVs and penaids), and resolved midcourse objects, as well as below-the-horizon tasked hot spot detection of boost phase missiles when cued by a space-based weapon or a priori knowledge. It provides surveillance data for use in situation assessment, operational intelligence collection, and for cueing other sensor and weapon elements. During midcourse, sensors discriminate and track RVs and associated objects to support midcourse engagements. (USSPACECOM)

Space-Based Surveillance and Tracking System (SSTS) OBSOLETE. A satellite-borne electro-optic tracking and surveillance system in medium earth orbit. The satellites would track targets from medium earth orbits against a cold space background and near the earth limb. Individual objects' state vectors would be generated from correlated information from two or more sensors. (Predecessor to Brilliant Eyes (BE).)

Space Command Center (SPACC)

A USSPACECOM center located on Peterson AFB, CO, in Building 147(1). It is the primary command facility for USSPACECOM providing USCINCSPACE with the information necessary to perform assigned missions.

Space Control Operations Operations that provide freedom of action in space for friendly forces while, when directed, denying it to an enemy; includes the broad aspects of protection to US and Allied space systems and negation of enemy space systems. Space control operations encompass all elements of the space defense mission.

**Space Defense** 

The defensive aspect of space control operations which includes all active or passive measures planned or taken to defeat attacks against friendly space systems or enemy attacks from space.

Space Defense Operations Center (SPADOC) A center in CMAFB responsible for monitoring and reporting of ASAT attacks on Blue satellites, negating designated satellites, and reconstituting and protecting designated satellites.

Space Detection and Tracking System (SPADATS) A network of space surveillance sensors operated by the U.S. Air Force.

Space Environment Forecast Center (SEFC) Center at Peterson AFB, CO that supplies terrestrial and solar weather to the CMAFB Weather Support Unit (WSU) and designated USSPACECOM units.

Space Forecast Center (SFC) Center at Falcon AFB, CO that supplies solar and space environmental warnings, analyses, and forecasts to USSPACECOM, NORAD, and DoD customers.

**Space Mines** 

Devices that can track and follow a target in orbit, with the capability of exploding on command or by pre-program to destroy the target.

Space Object Identification (SOI)

Use of radar, imaging, and other collection resources to determine size, shape, ephemeris, and identity of space objects.

**Space Power** 

Generation and control of electrical energy in space, from various originating sources (e.g., nuclear, chemical, solar).

Space Support Operations Operations required to ensure that space control and support of terrestrial forces are maintained. They include activities such as launching and deploying space vehicles, maintaining and sustaining space vehicles while on orbit, and recovering space vehicles if required.

Space Surveillance (SPASUR) An operational space surveillance system with the mission to detect and determine the orbital elements of all man-made objects in orbit of the earth. The mission is accomplished by means of a continuous fan of continuous wave energy beamed vertically across the continental United States, and an associated computational facility. It is the Navy portion of the North American Aerospace Defense Command Space Detection and Tracking System.

Space Surveillance Center (SSC) A center in CMAFB responsible for maintaining the satellite catalog, laser clearinghouse, collision and RFI avoidance, and Tracking and Impact Prediction (TIP).

Spacetrack

USSPACECOM global system of radar, optical, and radiometric sensors linked to a computation and analysis center in the Space Surveillance Center. The Spacetrack mission is detection, tracking, and cataloging of all man-made objects in orbit about the earth.

Space Transportation System (STS) A national asset that provides routine access to space for both civil and defense users. Elements of the STS include the Space Shuttle, upper stages, Spacelab, launch and landing facilities, simulation and training facilities, and mission control facilities. The STS is a reusable system capable of deploying a wide variety of scientific and applications satellites. It can carry payloads weighing up to 65,000 pounds.

SPADATS

See Space Detection and Tracking System.

**SPADCCS** 

Space Defense Command and Control System.

SPADOC

See Space Defense Operations Center. (U.S. antisatellite mission control).

Spartan

Nuclear-armed, long range mid-course interceptor used in SAFEGUARD/Sentinel

systems.

SPAS

Space Power Architecture Study.

**SPASUR** 

See Space Surveillance.

SPAWAR

Naval Space and Warfare Commend.

SPC

1. Statistical Process Control 2. Special Program Center. 3. See Special

Programs Center.

SPE

See Senior Procurement Executive.

SPEAR

Space Power Experiments Aboard Rocket.

SPEC

Specification.

Special Data Commands Special, non-routine commands distributed for surveillance battle management,

and fire control.

Special Programs Center National center for threat modeling and production. Located in the National

Test Facility at Falcon AFB, CO.

Special Test Equipment (STE) Single or multipurpose integrated test units engineered, designed, fabricated, or modified to accomplish special purpose testing. Such testing units comprise electronic, hydraulic, pneumatic, mechanical, or other items interconnected so as to become a new function entity, causing the individual item or items to become interdependent and essential in the performance of special purpose testing in the development or production of particular supplies or services.

**Specification** 

A document (or other media) that specifies, in a complete, precise, verifiable manner, the requirements, design, behavior, or other characteristics of a system or component, and often, the procedures for determining whether or not these provisions have been satisfied.

Specification Language A language, often a machine-processable combination of natural and formal language, used to specify the requirements, design, behavior, or other characteristics of a system or system component.

Specified Command A command that has a broad continuing mission and that is established and so designated by the President through the Secretary of Defense with the advice and assistance of the Joint Chiefs of Staff.

SPFE

Special Projects Flight Experiments.

SPICE

Space Integrated Controls Experiment.

SPINE

Shared Program Information Network.

SPIRE

Space Performance in Radiation Environments.

SPIRIT

Space Infrared Imaging Telescope.

SPO

See System Program Office. (Air Force)

SPOD

Seaport of Debarkation.

SPOE

Seaport of Embarkation.

**Spoofing** 

Any technique by which sensitive information or commands may be substituted or stopped without the knowledge of the authorized personnel involved.

SPOT

Systeme Probatoire d'Observation de la Terre - French observation satellite

SPP

System Performance Parameters.

SPR

1. Secretarial Program Review (AF). 2. Secretarial Performance Review (OSD). 3. Sponsor's Program Review (Navy).

**Sprint** 

Nuclear-armed, short range interceptor used in SAFEGUARD/Sentinel systems.

SPRN

(Former) Soviet system for missile attack warning.

SPY-1

AEGIS radar.

SRA

See System Requirements Analysis.

SRAM

Short-Range Attack Missile.

SRB

Solid Rocket Booster.

SRBM

See Short Range Ballistic Missile.

SRD

Systems Requirement Document.

SREMP

Source Region Electromagnetic Pulse.

SRF

Strategic Rocket Forces.

SRHIT

OBSOLETE. Small Radar Homing Intercept Technology. Predecessor program to Flexible Lightweight Agile Guided Experiment (FLAGE).

SRIM

Short-Range Intercept Missile.

SRINF

Short Range Intermediate Nuclear Force.

SRL

1. Site Readiness Level. 2. System Readiness Level. 3. See Superradiant Laser.

Stanley R. Mickelsen SAFEGUARD Complex site.

SRR

SRMSC

See System Requirements Review.

SRS 1. Site/System Requirements Study. 2. Software Requirements Specification

SRT Strategic Red Team.

SRU Shop Replaceable Unit.

SRV Single Reentry Vehicle.

SS-18 Largest ICBM in former Soviet inventory credited with carrying 10 RVs, but

capable of holding many more.

SSA see Source Selection Authority.

SSB Single Side Band.

SSBN Ballistic Missile Submarine (nuclear).

SSC 1. See Space Surveillance Center. 2. Scan-to-Scan Correlation. 3. Strategic

Systems Committee.

SSD OBSOLETE. Space Systems Division. (Now USAF/SMC.)

SSDA Solid State Demonstration Array.

SSEB Source Selection Evaluation Board.

SSGM Strategic Scene Generation Model.

SSDR Subsystem Design Review.

SSE 1. See System Security Engineering. 2. Space Surveillance Experiment.

SSGM Strategic Scene Generation Model.

SSIMU Solid State Inertial Measurement Unit.

SSL Solid State Laser.

SSM Surface-to-Surface Missile.

SSMP See System Security Management Plan.

SSMS See Standard Survivable Message Set.

SSMTR Sary Shagan Missile Test Range.

SSP See Source Selection Plan.

SSPK Single Shot Probability of Kill.

SSPM 1. Solid State Photo Multiplier. 2. Software Standards and Procedures Manual.

SSPO Strategic Systems Program Office. (U.S. Navy)

SSR

Software Specification Review.

SSRT

Single Stage Rocket Technology.

SSS

1. Space Sensor System. 2. System/Segment Specification.

SSTS

OBSOLETE. See Space-Based Surveillance and Tracking System.

SSWG

System Safety Working Group.

ST

Simulation Tool.

STA

Significant Technical Accomplishments.

Stage

An element of the missile or propulsion system that generally separates from the missile at burnout or cut-off. Stages are numbered chronologically in order

of burning.

STANAG

Standardization Agreement (NATO).

Standard Missile

A shipboard, surface-to-surface/air missile.

Standard Mobile Segment (SMS) SMS is to be the standard for all future ground mobile, air transportable

command centers.

Standard Survivable Message Set (SSMS) Message set which contains the standard format used by ITW/AA data sources.

Standardization

The process by which DoD achieves: (1) the closest practicable cooperation among forces; (2) the most efficient use of research, development, and production resources; and (3) agreement to adopt on the broadest possible basis the use of: (a) common or compatible operational, administrative, and logistics procedures and criteria; (b) common or compatible technical procedures and criteria; (c) common, compatible, or interchangeable supplies, components, weapons, or equipment; and (d) common or compatible tactical doctrine with corresponding organizational compatibility.

STAR

See System Threat Assessment Report.

**STARS** 

Strategic Target System.

**START** 

Strategic Arms Reduction Treaty.

**STASS** 

Space Transportation Architecture System Study.

Statement of Work (SOW)

That portion of a contract that establishes and defines all nonspecification requirements for contractors efforts either directly or with the use of specific

cited documents.

Static Analysis

The process of evaluating a program without executing the program. See also desk checking, code audit, inspection, static analyzer, walk-through.

with dynamic analysis.

STB

Surveillance Test Bed.

STC

SHAPE Technical Center.

STD

System Technology Demonstration.

STE

See Special Test Equipment.

Stealth

A technique used to frustrate discrimination that uses the decoy shape and material content to reduce the reflected IR, radar, optical or acoustic cross-

section to the defensive sensor.

Stellar Guidance

A system wherein a guided missile may follow a predetermined course with reference primarily to the relative position of the missile and certain preselected

celestial bodies.

STEP

Surveillance and Tracking Experiment Program.

Steradian

The unit of measure of solid angles equal to the angle subtended at the center of a sphere of unit radius by unit area on its surface.

Stereo

Using two or more sensors.

Stimulated **Emission** 

Physical process by which an excited molecule is induced by incident radiation to emit radiation at an identical frequency and in phase with the incident radiation. Lasers operate by stimulated emission.

**STINFO** 

Scientific Technological Information.

STM

Significant Technical Milestone.

Storage, Handling, and **Transportation Environments** 

These environment categories cover the applicable free field or ambient environments which the system assets must be capable of withstanding during storage, handling and transportation. They include the full array of applicable atmospheric and ground environments to which BMD assets will be exposed during these non-operational aspects of system deployment such as pressure,

shock and vibration environments, among others.

STORM

A surrogate TBM target.

STP

1. System Test Plan 2. Sensor Task Plan.

STRAP

**HATMD System Training Plan.** 

STRATCOM

Strategic Command.

Strategic Defense

All active and passive measures to detect, identify, assess, degrade and defeat ballistic missile, air, and space threats to North America, including measures to nullify or reduce the effectiveness of such attacks.

Strategic Defense Emergency Declaration that attack is imminent or taking place.

Strategic Defense System (SDS) A generic descriptor which refers to all architectural elements of the evolving ballistic missile defense system.

Strategic Level of War

The level of war at which a nation or group of nations determines national or alliance security objectives and develops and uses national resources to accomplish those objectives.

Strategic Offensive Forces (SOF) Those forces under the command of the Commander in Chief, USSTRATCOM, the Commander in Chief, Atlantic Command, the Commander in Chief, Pacific Command, and other forces assigned to execute the Single Integrated Operations Plan (SIOP). These forces include but are not limited to B-52s, B-1s, FB-111s, Minuteman IIs and IIIs, Peacekeepers, Poseidons, and Tridents.

Strategic Reserve

That quantity of material that is placed in a particular geographic location due to strategic considerations or in anticipation of major interruptions in the supply distribution system. It is over and above the stockage objective.

Strategic Warning

A warning prior to the initiation of a threatening act.

Strategic Warning Lead Time That time between the receipt of strategic warning and the beginning of hostilities. This time may include two action periods: strategic warning predecision time and strategic warning post-decision time.

Strategic Warning Post-Decision Time That time which begins after the decision, made at the highest levels of government(s) in response to strategic warning, is ordered executed and ends with the start of hostilities or termination of the threat. It is that part of strategic warning lead time available for executing pre-hostility actions to strengthen the national strategic posture; however, some preparatory actions may be initiated in the pre-decision period.

Strategic Warning Pre-Decision Time That time which begins upon receipt of strategic warning and ends when a decision is ordered executed. It is that part of strategic warning lead time available to the highest levels of government(s) to determine the strategic course of action to be executed.

Structured Attack An attack in which the arrival of warheads on their diverse targets is precisely timed for maximum strategic impact.

Structured Design

A disciplined approach to software design that adheres to a specified set of rules based on principles such as top-down design, stepwise refinement, and data flow analysis.

Structured Program A program constructed of a basic set of control structures, each one having one entry point and one exit. The set of control structures typically includes: sequence of two or more instructions, conditional selection of one of two or more instructions, conditional selection of one of two or more instructions or sequences of instructions, and repetition of an instruction or a sequence of instructions.

**STRV** 

Space Technology Research Vehicle.

STS

See Space Transportation System.

ST/STE

Special Tooling/Special Test Equipment.

STU

Secure Telephone Unit.

STW

Strike Warfare.

**STWC** 

Strike Warfare Commander.

**STWG** 

Simulation Tools Working Group.

Subassembly

Two or more parts joined together to form a unit, capable of disassembly, which is only a part of a complete machine, structure, or other article.

Subcontractor

A contractor who enters into a contract with a prime contractor.

Subject Security Level A subject's security level is equal to the security level of the objects to which it has both read and write access. A subject's security level must always be dominated by the clearance of the user and with the associated subject.

Submarine-Launched Ballistic Missile (SLBM) A ballistic missile launched from a submarine, with a range of 3,000 to 6,000

miles.

SUBROC

Submarine Rocket.

Subsystem

A functional grouping of components that combine to perform a major function within an element, such as attitude control and propulsion.

Subtractive Defense

First come first engaged as long as weapons last.

Succession of Command

The planned or actual sequence in which subordinate commanders, in turn, become de facto commanders of a senior organization. Devolution of command is a synonymous term.

**Sunk Costs** 

The costs of resources already committed or spent. In comparing two alternatives, such costs are "non-additive," and they are not germane to decisions about future use of resources.

Super

Survivable Solar Power Subsystem Demonstrator.

Superradiance

The process used by a superradiant laser to generate or amplify a laser beam in a single pass through a lasant material, or, in the case of a free electron laser, through an electric or magnetic field in the presence of an electron beam. Superradiance is actually a form of stimulated emission. Also known as superfluorescence, or amplified spontaneous emission.

#### Superradiant Laser (SRL)

A laser in which the beam passes through the lasant only once; mirrors are not required for the operation of such a laser, as they are with more conventional lasers which are sometimes called "cavity lasers" to distinguish them from superradiant lasers. Free electron lasers may also be superradiant; the laser beam of a superradiant free electron laser would pass once through the electric or magnetic field (instead of a lasant) in the presence of an electron beam.

#### Supervisory Programs

Computer programs that have the primary function of scheduling, allocating, and controlling system resources rather than processing data to produce results.

#### Supplemental Appropriation

An appropriation enacted as an addition to a regular annular appropriation act.

#### Support Equipment

All system equipment required to support the ground and flight phases of the mission. Support equipment includes aerospace ground equipment (AGE), maintenance ground equipment (MGE), transportation and handling (T&H) equipment, and equipment used to support system deployment (i.e., assembly tools and fixtures, test and checkout equipment, personnel support and protection equipment).

#### Support Personnel

Individuals, in addition to operators, trainers, and maintainers, who are directly associated with an operational system(s), and who are critical to its continuous operation. Examples include program management offices, security, supply, administrative support, and the like.

#### Support Software

Software that aids in the development or maintenance of other software, for example compilers, loaders, and other utilities.

#### Suppression

Temporary or transient degradation of the performance of a weapons system, below the level needed to fulfill its mission objectives, by an opposing force.

#### **Surge Production**

An increased rate of production necessary to meet demands for defense items due to a need for accelerated production to meet a threat or for a wartime or mobilization situation. This increased rate can be obtained by having excess production capacity available or by utilizing multiple shifts of normal capacity measures.

#### Surveillance

An observation procedure that includes tactical observations, strategic warning, and meteorological assessments, by optical, infrared, radar, and radiometric sensors on space-borne and terrestrial platforms.

#### Surveillance Requirements

Requirements are requests for surveillance, including relative priorities for coverage and sensitivity levels, based on operational orders, selected response options and current surveillance system availability.

#### Surveillance, Satellite and Missile

The systematic observation of aerospace for the purpose of detecting, tracking, and characterizing objects, events, and phenomena associated with satellites and inflight missiles, friendly and enemy.

#### Surveillance System Configuration

The sensor types and locations and the modes of operation currently activated in the surveillance system.

Survivability
Operating Modes

The operating modes not including but in addition to the self-defense modes that all the elements can use to protect themselves against direct enemy attack.

Survivable and Enduring Command Center The USSTRATCOM mobile C<sup>2</sup> facility.

Sustainer

(SECC)

Propulsion stage of a missile usually operating after the booster cutoff.

SWA

Southwest Asia.

SWA-N

Southwest Asia -- North Campaign Scenario.

SWA-S

Southwest Asia -- South Campaign Scenario.

SWC

Strike Warfare Commander.

Sweep Jamming

A narrow band of jamming that is back and forth over a relatively wide operating band of frequencies.

SWIL

Software-in-the-Loop.

**SWIR** 

See Short Wavelength Infrared.

SWSC

Space and Warning System Center.

SYDP

See Six Year Defense Program.

Synchronization

For data streams, the process whereby a received set of data is placed in one to one correspondence with the data assumed to have been transmitted.

**Synthesis** 

The automatic generation of a runnable system from a specialized design where each module description has associated implementations.

Synthetic Aperture Radar (SAR) A radar technique that processes echoes of signals emitted at different points along a satellite's orbit. The highest resolution achievable by such a system is theoretically equivalent to that of a single large antenna as wide as the distance between the most widely spaced points along the orbit that are used for transmitting positions. In practice, resolution will be limited by the radar receiver's signal processing capability or by the limited coherence of the radio signal emitted by the radar transmitter.

SYSCOM

Systems Command.

System

1. The organization of hardware, software, materials, facilities, personnel, data, and services needed to perform a designated function with specified results, such as the gathering of specified data, its processing, and delivery to users. 2. A combination of two or more interrelated equipment (sets) arranged in a functional package to perform an operational function or to satisfy a requirement.

### System Activation

That set of coordination, assessment, decision, direction and control functions implemented to enable defense weapons, and to initiate the automated, real-time aspects of Battle Management, Engagement Control, and Weapon System Control.

#### System Architecture

The structure and relationship among the components of a system. The system architecture may also include the system's interface with its operational environment. A framework or structure that portrays relationships among allthe elements of missile defense systems.

## System Center (SC)

A center in CMAFB responsible for the scheduling of maintenance for worldwide sensors and supporting equipment as well as maintenance responsibility of equipment in CMAFB.

## System Concept Paper (SCP)

OBSOLETE. For a major program, was used to summarize the results of the concept exploration phase up to Milestone I and to describe the acquisition strategy, including the identification of the concepts to be carried into the demonstration and validation phase and the reasons for elimination of other concepts. Now an Integrated Program Summary (IPS).

# System Configuration Control Board (SCCB)

The senior SDS configuration control board. The SCCB will manage the system-level configuration of the SDS and the interfaces between elements of the SDS.

#### System Control

Function or task of monitoring the maintenance status of assigned sensors and computer systems.

## System-Critical Function

A function that is necessary for the successful accomplishment of the system's mission.

#### System Deployment

Delivery of the completed production system to the using activity.

#### System Design

1. The process of defining the hardware and software architectures, components, modules, interfaces, and data for a system to satisfy specified system requirements. 2. The result of the system design process.

## System Design Concept

An idea expressed in terms of general performance, capabilities, and characteristics of hardware and software oriented either to operate or to be operated as an integral whole in meeting a mission need.

#### System Design Review (SDR)

Evaluates the optimization, correlation, completeness, and risks associated with the allocated technical requirements.

#### System Effectiveness

The measure of the extent to which a system may be expected to achieve a set of specific mission requirements. It is a function of availability, dependability, and capability.

#### **System Families**

A collection or grouping of interrelated software systems in the domain that share a set of common characteristics.

## System Generated Electromagnetic Pulse (SGEMP)

Transient electromagnetic radiation caused by the photoelectron emission of the surface of an object subjected to a pulse of photon energy. Although local fields close to the object surface may reach quite high values (kilovolts), the primary disturbance mechanism is the flow of replacement current through the object in order to produce charge equalization.

#### System Integration Test

A live flight system-level test utilizing actual system command and control, sensors, and weapon hardware.

#### System Manager

A general term of reference to those organizations directed by individual managers, exercising authority over the planning, direction, and control, of tasks and associated functions essential for support of designated weapons or equipment systems.

## System Operational Concept

A formal document that describes the intended purpose, employment, deployment, and support of a system.

## System Operation and Integration Functions (SOIF)

The automated activities of tracking, communications, asset management, and battle plan execution which are executed under the guidance of the Command and Control Element. The allocation of these functions (and sub-functions) to the system elements will be specified in the architecture(s).

#### System Posture

A USSPACECOM system of graduated readiness steps to bring the strategic BMD system to fully generated alert, similar to the USSTRATCOM concept of posturing aircraft and missile forces to reduce reaction time.

### System Program Office (SPO)

The office of the program manager and the point of contact with industry, government agencies, and other activities participating in the system acquisition process. (U.S. Army uses term "Project Office.")

#### System Readiness

System Readiness includes the development of OPLANs necessary to carry out the assigned mission, using strategy and guidance provided by higher authority along with knowledge of current system performance and planned capabilities. It includes peacetime tests and exercises to maintain the system in an operational state, and the demonstration and evaluation of alternate tactics and the verification of system performance, to the extent practicable. It provides for the continued training and exercise of personnel in operating the system under realistic conditions, and provides for control of other system test functions necessary to keep the system operating. It provides for detection of anomalies and for corrective action. It also provides for maintenance schedule control, historical maintenance data retention, maintenance training, and test results status reporting.

#### System Readiness Objective

A criterion for assessing the ability of a system to undertake and sustain a specified set of missions at planned peacetime and wartime utilization rates. System readiness measures take explicit account of the effects of reliability and maintainability system design, the characteristics and performance of the support system, and the quantity and location of support resources. Examples of system readiness measures are combat sortie rate over time, peacetime mission capable rate, operational availability, and asset ready rate.

## System Requirements Analysis (SRA)

An analysis of the operational system requirements, as defined in the System Concept Paper and other approved requirements documents, used to determine specific system functional and performance requirements.

#### System Requirements Review (SRR)

Conducted to ascertain progress in defining system technical requirements. Determines the direction and progress of the systems engineering effort and the degree of convergence upon a balanced and complete configuration.

#### System Security Engineering (SSE)

An element of system engineering that applies scientific and engineering principle to identify security vulnerabilities and minimize or contain risks associated with these vulnerabilities. It uses mathematical, physical, and related scientific disciplines, and the principles and methods of engineering design and analysis to specify, predict, and evaluate the vulnerability of the system to security threats.

#### System Security Engineering Management Program (SSEMP)

The contractor shall establish a SSE program to support economical achievement of overall program objectives. To be considered efficient, the SSE program: (1) enhances the operational readiness and mission success of the defense resource; (2) identifies and reduces potential vulnerabilities to the resource from sabotage, theft, damage, destruction, etc.; (3) provides management information essential to system security planning and (4) minimizes its own impact on overall program cost and schedule.

#### System Security Management Plan (SSMP)

A formal document that fully describes the planned security tasks required to meet system security requirements, including organizational responsibilities, methods of accomplishment, milestones, depth of effort, and integration with other program engineering, design and management activities, and related systems.

#### Systems Engineering

An interdisciplinary approach to evolve and verify an integrated and life-cycle balanced set of system product and process solutions.

# Systems Engineering Management Plan (SEMP)

This plan documents: (1) Management of the systems engineering process, (2) Integration of the required technical specialties; (3) Performance measures development and reporting, including intermediate performance criteria, and (4) Key engineering milestones and schedules.

#### Systems Test Integration and Coordination

The combination of SDS elements tests to reflect SDS performance contribution.

#### System Threat Assessment Report (STAR)

Required by DoD 5000.2 and validated by DIA. Establishes the threat (to a Service's Mission Area) and is part of basis for considering mission deficiency and potential program new start. Updated to support a DAB Milestone or when the threat changes significantly.

## System-Valued Asset

A system element/component, function, or information element which is critical to the proper operation and well-being of the SDS.

TA

Threat Assessment.

T&E

Test and Evaluation.

TAA

Technical Assistance Agreement.

**TAADCOM** 

Theater Army Air Defense Commander.

TAAF

Test, Analyze and Fix.

**TACAIR** 

Tactical Air.

TACC

Tactical Air Command Center.

**TACCSF** 

Tactical Air Command and Control Simulation Facility.

**TACDAR** 

Tactical Detection and Reporting.

**TACON** 

Tactical Control.

TACS

Theater Air Control System.

TACSAT

Tactical Satellite.

Tactical Air Doctrine Fundamental principles designed to provide guidance for the employment of air power in tactical air operations to attain established objectives.

Tactical Air Operation An air operation involving the employment of air power in coordination with ground or naval forces.

Tactical Air Operations Center A subordinate operational component of the Marine Air Command and Control System designed for direction and control of all en route air traffic and air defense operations in an assigned sector.

Tactical Air Support Air operations carried out in coordination with surface forces and which directly assist land or maritime operations.

Tactical Area of Responsibility (TAOR)

A defined area of land for which responsibility is specifically assigned to the commander of the area as a measure for control of assigned forces and coordination of support.

Tactical Ballistic Missile (TBM) A land-based missile generally having a range of <3000 miles that can be employed within a continental theater of operations.

**Tactical Concept** 

A statement, in broad outline, which provides a common basis for future development of tactical doctrine.

**Tactical Control** 

The detailed and, usually, local direction and control of movements or maneuvers necessary to accomplish missions or tasks assigned.

Tactical Data Information link A netted link in which one unit acts as a net control station and interrogates each unit by roll call. Once interrogated, that unit transmits its data to the net. This means that each unit receives all the information transmitted.

Tactical Level of War the level of war at which battles and engagements are planned and executed to accomplish military objectives assigned to tactical units or task forces.

Tactical
Operations Area
(TOA)

That area between the fire support coordination line and the rear operations area where maximum flexibility in the use of airspace is needed to assure mission accomplishment.

Tactical Operations Center (TOC) A physical grouping of those elements of an Army general and special staff concerned with the current tactical operations and the tactical support thereof.

## Tactical Warning (TW)

1. A warning after initiation of a threatening or hostile act based on an evaluation of information from all available sources. 2. In satellite and missile surveillance, a notification to operational command centers that a specific threat event is occurring. The component elements that describe threat events are: country of origin, event type and size, country under attack, and event time.

Tactical Warning/Attack Assessment (TW/AA) A composite term. See separate definitions for Tactical Warning and for Attack Assessment.

TAD

1. Tactical Air Defense. 2. Theater Air Defense. 3. Technical Acceptance Demonstration.

TADAP

Theater Air Defense Asset Planner.

**TADC** 

Tactical Air Direction Center.

TADIL

Tactical Digital Information Link.

**TADIXS** 

Tactical Data Information Exchange System.

**TADL** 

Tactical Data Link.

**TADS** 

Tactical Air Defense System.

TADSIM

Theater Air Defense Simulation.

**TAF** 

Tactical Air Force.

TAI

International Atomic Time.

TAIS

Technology Applications Information System.

**TALON** 

Theater Application Launch-on-Notice. A kinetic kill, high-velocity interceptor (under development).

#### TALON SHIELD

An effort using stereo DSP processing to provide ballistic missile burnout vector and impact prediction for interceptor cueing, counterforce tasking, and passive defense.

T&E

See Test and Evaluation.

Tank

Final Propulsion Stage (used interchangeably with sustainer).

Tank Debris

Hardware associated with tank.

Tank

Fragmentation

The breakup of a tank, either intentionally to serve as a penaid or naturally as a

result of aerodynamic loads and heating upon reentry.

TAOC

Tactical Air Operations Center.

MOAT

Tactical Air Operations Module.

TAR

1. The NMD Threat Assessment Report. 2. Threat Activity Report.

**Target Acquisition** 

The detection and initiation of track on a target in the surveillance coverage region of a sensing system.

**Target** 

Classification and

Type

Identification of the estimated target category based on surveillance, discrimination, and intelligence data.

Target

Discrimination

The ability of a surveillance or guidance system to identify or engage any one target when multiple targets are present.

Target Object Map (TOM)

A data set which contains three-dimensional position estimates for target and other objects predicted to be in a weapon interceptor's field of view for use in target designation. (USSPACECOM)

**Target Resolution** 

The splitting of a single target into two or more targets.

**Target Signature** 

The characteristic pattern of a target displayed by detection and 1. identification equipment. 2. In naval mine warfare, the variation in the influence field produced by the passage of a ship or sweep.

Tasks

The required actions to accomplish all or part of a COA. Tasks contain guidance to the Battle Management/Command, Control and Communications (BM/C3) engagement planning function concerning resource allocation, constraints, and required performance.

TASM

Tactical Air-to-Surface Missile.

TAV

Transatmospheric Vehicle.

**TAWG** 

Threat Accreditation Working Group.

TBA

Theater Battle Arena.

TBIG

TMD BM/C3 Integration Group.

TBM

See Tactical Ballistic Missile/Theater Ballistic Missile.

TBMD

Theater Ballistic Missile Defense.

**TCCF** 

Tactical Communications Control Facility.

TCE

Three Color Experiment.

TCF

Tactical Combat Force.

TCMD

Theater Cruise Missile Defense.

**TCMP** 

Theater (Missile Defense) Countermeasures Mitigation Program.

TD

1. Test Director. 2. Technical Data. 3. Technical Director.

TDA

Table of Distribution and Allowance.

**TDAS** 

Theater Defense Architecture Study.

**TDASS** 

Theater Defense Architecture Scoping Study.

TDI

Target Data Inventory.

TDM

Time Division Multiplexed.

**TDNS** 

Theater Defense Netting Study.

TDP

1. See Technical Data Package. 2. Test Design Package. 3. Threat Design

Program.

TDR

Terminal Defense Radar.

**TDRSS** 

Tracking and Data Relay Satellite System.

**TDSSPA** 

Technology development for Solid State Phased Arrays.

**TDUGS** 

1. Target Data Uplink Ground Station. 2. Target Data Update Ground Station.

TE

1. Thermo-electric 2. Test Engineer 3. Training Element

4. (BMC3) Test Exerciser.

TEAS

Test and Experiment Activity Summary.

**Technical Data** 

Scientific or technical information recorded in any form or medium (such as manuals and drawings). Computer programs and related software are not technical data; documentation of computer programs and related software are. Also excluded are financial data or other information related to contract

administration.

#### Technical Data Package (TDP)

A technical description of an item adequate for supporting an acquisition strategy, production, engineering, and logistics support. The description defines the required design configuration and procedures to ensure adequacy of item performance. It consists of all applicable technical data such as drawings, associated lists, specifications, standards, performance requirements, quality assurance provisions, and packaging details.

#### Technical Evaluation

The study, investigation, or test and evaluation by a developing agency to determine the technical suitability of materiel, equipment, or a system, for use in the military services. (See Development Test and Evaluation.)

#### Technical Objectives

The "target" values for the development effort when insufficient data is available for stating binding technical requirements.

### Technical Parameters (TPs)

A selected subset of the system's technical metrics tracked in Technical Performance Measurement. Critical technical parameters are identified from risk analyses and contract specification or incentivization, and are designed by management.

# Technical Performance Measurement (TPM)

Describes all the activities undertaken by the government to obtain design status beyond that treating schedule and cost. TPM is defined as the product design assessment which estimates, through tests the values of essential performance parameters of the current design of WBS product elements. It forecasts the values to be achieved through the planned technical program effort, measures differences between achieved values and those allocated to the product element by the system engineering process, and determines the impact of these differences on system effectiveness.

#### Technical Specification

A detailed description of technical requirements stated in terms suitable to form the basis for actual design development and production.

#### Technical Surveillance

Intelligence gathering methods in which clandestine listening, photographic or emanations gathering instruments are placed within SDS facilities, or otherwise targeted against SDS assets to gain access to denied information.

#### Technology Executing Agent

The Service or agency (DoD or non-DoD) that has been delegated management responsibility for a particular critical supporting technology by BMDO or Executing Agent.

#### Technology Program Description

The generic description of the applicable supporting technology or critical supporting technology.

#### TECOM

Test and Evaluation Command.

TED

Technology Exploitation Demonstration.

TEL

Transporter-Erector-Launcher.

#### Telemetry, Tracking, and Command (TT&C)

Functions performed by the satellite control network to maintain health and status, measure specific mission parameters and processing over time a sequence of these measurement to refine parameter knowledge, and transmit mission commands to the satellite.

The combining of telecommunications and computer operations interacting in Teleprocessing

the automatic processing, reception, and transmission of data and/or

information.

Telemetry Intelligence. **TELINT** 

See Test and Evaluation Master Plan. TEMP

TEMPEST is an unclassified short name referring to investigation and studies of **TEMPEST** 

It is often used synonymously for the term compromising emanations. "compromising emanations," e.g. TEMPEST tests, TEMPEST inspection. (See

Compromising Emanations.)

Tactical Exploitation of National Capabilities. TENCAP

Test and Evaluation Plan. TEP

Test and Evaluation Resource Committee. TERC

Terrain Contour Matching. TERCOM

The guidance applied to a guided missile between midcourse and arrival in the **Terminal Guidance** 

vicinity of the target.

That final portion of a ballistic missile's trajectory between the midcourse phase **Terminal Phase** 

and trajectory termination.

A ground-based interceptor designed to intercept and destroy RVs in the **Terminal Phase** terminal phase of flight. It may also be assigned to intercept and destroy Interceptor

enemy PBVs and RVs in the midcourse phase. (USSPACECOM)

Transition from sunlight to earth's shadow in space. Terminator

Tactical Event Reporting System. TERS

Tactical Event System. TES

Test and Evaluation Security Plan. TESP

The ISTC Test and Control provides the human interface for testing system **Test and Control** 

hardware and software. The Test and Control will consist of the necessary consoles, processors, and storage devices in order to be able to control all operations of the ISTC such as configuring the system, running a scenario, analyzing data, generating reports, and testing system hardware and software.

#### Test and Evaluation (T&E)

Process by which components or systems are tested and the results evaluated to assess progress of design, performance, supportability, etc. There are three types of T&E -- Development (DT&E), Operational (OT&E), and Production Acceptance (PAT&E)--occurring during the acquisition cycle. conducted to assist the engineering design and development process, to proof manufacturing processes and control and to verify attainment of technical performance specifications and objectives. OT&E is conducted to estimate a needed identify suitability, operational effectiveness and system's modifications, and provide information on tactics, doctrine, organization, and PAT&E is conducted on production items to personnel requirements. demonstrate that those items meet the requirements and specifications of the procuring contracts or agreements. OT&E is further subdivided into two phases--Initial Operational (IOT&E) and Follow-on Operational (FOT&E). IOT&E must be conducted before the production decision (Milestone III) to provide a credible estimate of operational effectiveness and suitability. Therefore, IOT&E conducted on a production representative system in an is a field test operationally realistic environment, by typical user personnel and includes use of realistic threats. FOT&E is conducted on the production system to verify operational effectiveness and suitability, to fill data voids from the IOT&E, or to verify correction of deficiencies in materiel, training, or concepts.

Test and Evaluation Master Plan (TEMP) An overall test and evaluation plan, designed to identify and integrate objectives, responsibilities, resources, and schedules for all test and evaluation to be accomplished prior to the subsequent key decision points. Prepared as early as possible in the acquisition process, it is updated as development progresses.

Test and Evaluation Working Group (TEWG) The TEWG is the forum in which T&E coordination for test requirements, planning, execution, and reporting, is accomplished among members of the Acquisition Team. The primary purpose of the TEWG is to optimize the use of test data, instrumentation, facilities, and models/simulations to achieve test integration and reduce program costs. The TEWG is established by the program sponsor to integrate test requirements, resolve cost/scheduling problems, facilitate TEMP development, assist in preparation of RFPs and related contractual documents, and assist in evaluating contractor proposals when there are T&E implications.

Testbed

A system representation consisting partially of actual hardware and/or software and partially of computer models or prototype hardware and/or software.

**Test Criteria** 

Standards by which test results and outcome are judged.

Test Integration Working Group (TIWG) A working group designed to facilitate the integration of test requirements in order to minimize development time and cost and preclude duplication between developmental and operational testing.

**Test Plan** 

A document prescribing the approach to be taken for intended testing activities. The plan typically identifies the items to be tested, the testing to be performed, test schedules, personnel requirements, reporting requirements, evaluation criteria, and any risk requiring contingency planning.

**Test Validity** 

The degree to which a test accomplishes its specified goal.

**TEWG** 

See Test and Evaluation Working Group.

TFIM

Technical (Architecture) Framework for Information Management

TFR

Terrain Following Radar.

**TFOV** 

Theoretical Field of View.

THAAD

See Theater High Altitude Area Defense System.

Theater

The geographical area outside the continental United States for which a commander of a unified or specified command has been assigned.

Theater Attack

Attack on a geographical area outside the continental United States.

Theater Ballistic Missile Defense (TBMD) System The aggregate TMD C3I and TBMD forces that, in total, provide defense against ballistic missile attacks within an overseas theater of operations. (USSPACECOM)

Theater Missile Defense Council (TMDC) A consultative body for considering TMD family of systems planning and programming issues; chaired by an Assistant to the BMDO Deputy for Acquisition/TMD, membership includes BMDO TMD Directors, representatives of each applicable Service Program Executive Officer, and TMD Executive Agents and Program Managers.

Theater High Altitude Area Defense System (THAAD) A ground-based, air transportable interceptor system that will provide wide area defense capability by intercepting longer range missiles at higher altitudes and at greater distances. Will provide an overlay or upper tier to point defenses such as PATRIOT.

Theater Missile (TM)

A theater missile (TM) is a ballistic missile (BM), cruise missile (CM), or air-tosurface guided missile (ASM) whose target is within a theater or which is capable of attacking targets in a theater.

Theater Missile Defense (TMD) The strategies and tactics employed to defend a geographical area outside the continental United States against attack from short-range, intermediate-range, or medium-range ballistic missiles.

Theater Missile Defense Ground-Based Radar (TMD-GBR) A ground-based, air transportable sensor that provides search, tracking and discrimination capabilities for the THAAD interceptor system. Also referred to as THAAD Radar.

Theater Missile Defense Initiative (TMDI) An initiative under which all DoD theater and tactical missile defense activities are carried out. Section 231 of the National Defense Act for Fiscal Year 1993 (Public Law 102–484) directed establishment of a TMDI office within the DoD.

Thermal Energy

Electromagnetic energy emitted as thermal radiation. The total amount of thermal energy received per unit area at a specified distance is generally expressed in terms of calories per square centimeter.

Thermal Imagery

Imagery produced by sensing and recording the thermal energy emitted or reflected from the objects which are imaged.

Thermal Kill

The destruction of a target by heating it, using directed energy, to the degree that structural components fail.

Thermal Management Technologies/techniques associated with the control and management of thermal energy, its generation, dissipation, and recovery.

Thermal Radiation

Electromagnetic radiation emitted (in two pulses from a nuclear air burst) from the fireball as a consequence of its very high temperature; it consists essentially of ultraviolet, visible, and infrared radiations.

Thermal X-Rays

The electromagnetic radiation, mainly in the soft (low energy) x-ray region, emitted by the nuclear weapon residue by virtue of its extremely high temperature; it also is referred to as the primary thermal radiation. It is the absorption of this radiation by the ambient medium, accompanied by an increase in temperature, which results in the formation of the fireball (or other heated region) which then emits thermal radiation. (See X-Rays.)

Thermosphere

The atmospheric shell extending from the top of the mesosphere to outer space; it is a region of more or less steadily increasing temperature with height, starting at 40 to 50 miles (70 to 80 kilometers); the thermosphere includes, therefore, the exosphere and most or all of the ionosphere.

Threat Characterization An assessment of the nature, magnitude and intent of an attack in progress.

Threat Corridor (Threat Tube)

A tube containing all the objects originating from launch sites and aimed at targets whose spacing is close enough to permit the tube around the object trajectories to be represented by a single trajectory in battle management computation.

**Threat Scenario** 

A hypothetical example of the employment of threat systems against ballistic missile defenses for the purpose of analysis and evaluation of those defensive systems and architectures.

**Threshold** 

Performance capability or characteristic level in terms of a minimum acceptable value (threshold) required to satisfy the mission need and a performance objective.

Threshold Defense A defense strategy that concedes that the target can be destroyed at a price that is not prohibitive, but the presence of the defense is thought to require the offense to mount a relatively large and complex attack.

Throw Weight

All weight in an interceptor, above the sustainer, which serves as the kill vehicle.

Thrusted Replicas (TREPS)

Conical decoys equipped with a miniature rocket device. Generally used to change the decoy's optical signature to resemble that of an RV in the reentry phase.

TIARA

Tactical Intelligence and Related Activities.

TIBS

Theater Information Broadcast Service.

TIC

1. Thermionic Integrated Circuit. 2. Technical Information Center.

TIE

1. Technology Integration Experiments. 2. Technical Independent Evaluation.

Tier

An integrated set of SDS elements that addresses a particular phase of the

threat (e.g., boost phase).

**Tiered Defenses** 

The use of defensive systems at different phases of the missile trajectory.

TIM

Technical Interchange Meeting.

Time-Phased Force and Deployment List Appendix 1 to Annex A of the operation plan. It identifies types and/or actual units required to support the operation plan and indicates origin and ports of debarkation or ocean area.

Time of Flight (Max)

The maximum time for a booster or vehicle to perform its function from time of launch.

Time on Station

The time the sensor is in its operating position.

Time Sensitive Targets Those targets requiring immediate response because they pose (or will soon pose) a clear and present danger to friendly forces or are highly lucrative, fleeting targets of opportunity.

**Time to Station** 

The time required to move a sensor to its operating position.

TIP

**TOPAZ International Program.** 

TIR

OBSOLETE. Terminal Imaging Radar. (Predecessor to Ground-Based Radar

Terminal (GBRT).)

TIRS

Telemetry, Instrumentation and Range Safety

TIU

TIBS/Tactical Interface Unit.

TIWG

Test Integration Working Group. (U.S. Army)

TL

Team Leader.

TLAM

Theater land Attack Missile.

TLV

Target Launch Vehicle.

TLX

Teletype.

TM

1. See Theater Missile. 2. Technical Manual.

TMD

See Theater Missile Defense.

**TMDAS** 

Theater Missile Defense Architecture Study.

TMDC

Theater Missile Defense Council.

TMD C3I

Those assets that provide connectivity between and among TBMD forces.

TMD-GBR

See Theater Missile Defense Ground-Based Radar.

**TMDI** 

See Theater Missile Defense Initiative.

**TMDSE** 

Theater Missile Defense System Exerciser.

TOA

Total Obligation Authority.

TOC

Tactical Operations Center.

TOE

Table of Organization and Equipment.

TOF

Time of Flight.

TOI

Track of Interest.

Tolerance

The ability of a system to provide continuity of operation under various

abnormal conditions.

TOM

See Target Object Map.

TOO

Target of Opportunity.

Top-Down

Pertaining to an approach that starts with the highest level component of a hierarchy and proceeds through progressively lower levels; for example, top-down design, top-down programming, top-down testing. Contrast with bottom-up.

Top-Down Design The process of designing a system by identifying its major components, decomposing them into their lower level components, and iterating until the desired level of detail is achieved.

**Top-Down Testing** 

The process of checking out hierarchically organized programs, progressively, from top to bottom, using simulation of lower level components.

**TOPAZ** 

A project to demonstrate the transfer of Russian thermionic space nuclear power technology to U.S. BMD applications.

**TOR** 

Terms of Reference.

TOT

Time on Target

Total Obligational Authority (TOA)

A DoD financial term which expresses the value of the direct program for a given fiscal year.

Total Quality management (TQM)

A management philosophy committed to a focus on continuous improvement to product and services with the involvement of the entire workforce.

TOTS

Target Oriented Tracking System

**Toxicity** 

The kind and amount of poison or toxic produced by a microorganism, or

possessed by a chemical substance not of biological origin.

**TPALS** 

Theater Protection Against Limited Strikes.

**TPBM** 

Terminal Phase Battle Manager.

**TPEC** 

THAAD Performance Evaluation Center.

**TPFDD** 

Time-Phased Force Deployment Data.

**TPFDL** 

Time-Phased Force Deployment List.

TPM

See Technical Performance Measurement.

TPO

1. Test Planning Organization. 2. THAAD Program Office

TPR

1. Terminal Phase Radar. 2. Trained Personnel Requirements. 3. Target Performance Report.

TPS

Thermal Protection System.

TPT

Theater Planning Tool.

**TPWG** 

Test Planning Working Group. (U.S. Air Force)

T/R

Transmit/Receive.

Traceability

1. The characteristic of software systems or designs or architectures or domain models that identifies and documents the derivation path (upward) and allocation/flowdown path (downward) of requirements and constraints. 2. The degree to which a relationship can be established between two or more products having a predecessor-successor or master-subordinate relationship to one another.

**Track** 

1. A series of related contacts displayed on a plotting board. 2. To display or record the successive positions of a moving object. 3. To lock onto a point of radiation and obtain guidance therefrom. 4. To keep a gun properly aimed, or to point continuously a target-locating instrument at a moving target. 5. The actual path of an aircraft above, or a ship on, the surface of the earth.

**Track Assessment** 

The Track Assessment looks for anomalies in an object's track data. An anomaly in the track may indicate a hit.

Track, Birth to Death The maintenance of an associated track through all phases of flight (i.e., boost to reentry).

**Track Correlation** 

The combining of track information for identification purposes, using all available data.

**Track Extension** 

This term usually applies to improvements in track estimates by use of new data. It is sometimes used to describe a process of target extrapolation to a future time or place (e.g., reentry).

Track File

A target's stated estimate, confidence, covariance matrix, and associated LOS measurements with irradiances with confidence of association; or some subset of the above.

Track File-Track History

A set of individual track reports on a particular object, which taken together produce useful approximation of that object's future position in space.

**Track Formation** 

The process of determining the track or tracks of detected objects. It is usually a three-step process of data association, track initialization, and track improvement by filtering.

Tracking

The act of generating and maintaining a time history of an object's position and any other features of interest.

Tracking and Pointing

Once a target is detected, it must be followed or "tracked". When the target is successfully tracked, a weapon is "pointed" at the target. Tracking and pointing are frequently integrated operations.

Tracking Range (Max)

The maximum line of sight distance at which a sensor can maintain track of an object.

Track Initiation

The formation of the first or initial estimate for a sensor system of the state vector of an object. The process typically requires observation from a number of frames.

Track Production Area An area in which tracks are produced by one radar station.

Track Symbology

Symbols used to display tracks on a data console or other display device.

**Track Telling** 

The process of communicating air surveillance and tactical data information between command and control systems or between facilities within the systems. Telling may be classified into the following types: back tell; cross tell; forward tell; lateral tell; overlap tell; and relateral tell.

**TRADEX** 

Target Resolution and Discrimination Experiment.

TRADOC

Training and Doctrine Command, Ft. Monroe, VA. (U.S. Army)

Traffic Capability Maximum

The maximum number of objects per unit time which the sensor system can maintain track files.

**Traffic Decoy** 

Decoy that matches RV characteristics in the exoatmosphere and high endoatmosphere.

Train

Threat geometry with objects placed in a line (string) along the velocity vector of reentry.

Trajectory

The curve described by an object moving through space.

Trajectory Histories Trajectory information on targets recorded over a period of time.

Trans-Attack

Period from first tactical indication of attack until termination started, i.e., post-

attack.

**TRANSEC** 

See Transmission Security.

**Transition** 

The period in which the world strategic balance would shift from offense-

dominance to defense-dominance.

Transition to Production A risk reduction process during which the program shifts (passes) from development to production. It is not an exact point, but is described as a process consisting of disciplined engineering and logistics management to ensure the system is ready for manufacture. (See DoD 4245.7-M.)

Transmission Security (TRANSEC) That component of security which results from all measures designed to protect communications transmissions from interception and traffic analysis. (See COMSEC.)

**Transonic** 

Of or pertaining to the speed of a body in a surrounding fluid when the relative speed of the fluid is subsonic in some places and supersonic in others. This is encountered when passing from subsonic to supersonic speeds and vice versa.

Transponder

A receiver-transmitter that will generate a reply signal upon proper interrogation.

TRAP

Tactical Receiver and Related Applications.

Trap Door

A hidden software or hardware mechanism that permits system security mechanisms to be circumvented.

Traveling Wave Tube (TWT)

An electronic tube in which a stream of electrons interact continuously or repeatedly with a guided electromagnetic wave moving substantially in synchronism with it, in such a way that there is a net transfer of energy from the stream to the wave; the tube is used as an amplifier or oscillator at frequencies in the microwave region.

**Traverse** 

1. To turn a weapon to the right or left on its mount. 2. A method of surveying in which lengths and directions of lines between points on the earth are obtained by or from field measurements, and used in determining positions of the points.

**Traverse Level** 

That vertical displacement above low-level air defense systems, expressed both as a height and altitude, at which aircraft can cross the area.

TRD

Technical Requirements Document.

TRE

Tactical Receive Equipment.

TREA

Transmit/Receive Element Array (THAAD).

TREE

Transient Radiation Effects on Electronics.

**TREPS** 

See Thrusted Replicas.

TRI-TAC

Tri-Service Tactical Digital Communications System.

TRMP

Test Resources Management Plan.

**Trojan Horse** 

A computer program with an apparently or actually useful function that contains additional (hidden) functions that surreptitiously exploit the legitimate authorizations of the invoking process to the detriment of security or mission performance.

TROPO

Tropospheric Scatter.

**Tropopause** 

The imaginary boundary layer dividing the stratosphere from the lower part of the atmosphere, the troposphere. The tropopause normally occurs at an altitude of about 7.62km to 13.71km in polar and temperate zones, and at 16.76km in the tropics. (See Stratosphere, Troposphere.)

**Troposphere** 

The region of the atmosphere, immediately above the earth's surface and up to the tropopause, in which the temperature falls fairly regularly with increasing altitude, clouds form, convection is active, and mixing is continuous and more or less complete.

Tropospheric Scatter

The propagation of electromagnetic waves by scattering as a result of irregularities in the physical properties of the troposphere.

TRPC

Technology Readiness Planning Committee.

TRR

Test Readiness Review.

Trusted Computer System/Software

A system or its software that employs sufficient hardware and software integrity measures to allow its use for processing sensitive or classified information.

**Trusted Path** 

A mechanism by which a person at a terminal can communicate directly with the Trusted Computing Base. This mechanism can only be activated by the person of the Trusted Computing Base and cannot be imitated by untrusted software.

TS

1. Terminal Service. 2. Top Secret.

**TSA** 

Technology Security Analysis.

**TSD** 

Tactical Surveillance Demonstration.

**TSDE** 

Tactical Surveillance Demonstration Enhancement.

TSEU

Technology Seeker Evaluation Unit.

TSM

TRADOC System Manager.

TSP

Target Support Plan.

TSR

Target System Requirements.

**TSRD** 

Target System Requirements Document.

**TSS** 

Terminal Surveillance Sensor.

**TSWG** 

Target Signature Working Group.

TT&C

See Telemetry, Tracking and Command.

TT&E

Technical Test and Evaluation (Army).

TTBM

Terminal Tier Battle Manager.

TTP

Tactics, Techniques, and Procedures.

TTY

Teletype.

TVC

Thrust Vector Control.

TVE

Technology Validation Experiment.

TVM

Track-via-Missile.

TW

See Tactical Warning.

TW/AA

See Tactical Warning/Attack Assessment.

TWG

Technical Working Group.

TW/SD

Tactical Warning and Space Defense.

**TWT** 

See Traveling Wave Tube.

Type A - System Specification

States all necessary requirements in terms of performance, including test provisions to assure that all requirements are achieved. Essential physical constraints are included. Type A specifications state the technical and mission requirements of the system as an entity.

Type B -Development Specification States all necessary requirements in terms of performance. Essential physical constraints are included. Type B specifications state requirements for the development of items other than systems. They specify all of the required item functional characteristics and the tests required to demonstrate achievement of those characteristics.

Type C - Product Specification

Product specifications are applicable to any item below the system level, and may be oriented toward procurement of a product through specification of primarily function (performance) requirements or fabrication (detailed design) requirements. Type C specifications are intended to be used for the procurement of items including computer programs.

**Typing** 

The act of recognizing objects by measuring a set of observables, computing a set of characteristics, and associating the characteristics with a specific class of objects (i.e., SS-18, SS-24).

UAV

Unmanned Aerial Vehicle.

UCP

Unified Command Plan.

UDS

Universal Documentation System.

UE

Unit Equipment.

UEWR

Upgrade Early Warning Radar.

UGT

Under Ground Test.

**UHF** 

Ultra High Frequency.

UIC

Unit Identification Code.

UKAS

1. UK Architecture Study 2. UK Associate Studies.

UKEADTB

UK Extended Air Defense Test Bed.

UKTB

United Kingdom Test Bed.

**Ultraviolet (UV)** 

Electromagnetic radiation of wavelength between the shortest visible violet (about 3,850 Angstroms) and soft x-rays (about 100 Angstroms).

UMD

Unit Manning Document.

UNAAF

Unified Action Armed Forces.

UNC

United Nations Command.

Unconventional Warfare

A broad spectrum of military and paramilitary operations conducted in enemy-held, enemy-controlled or politically sensitive territory. Unconventional warfare includes, but is not limited to, the interrelated fields of guerrilla warfare, evasion and escape, subversion, sabotage, and other operations of a low visibility, covert, or clandestine nature.

Unified Action Armed Forces A publication setting forth the principles, doctrines, and functions governing the activities and performance of the Armed Forces of the United States when two or more Services or elements thereof are acting together.

**Unified Command** 

A command with a broad continuing mission under a single commander and composed of significant assigned components of two or more Services, and which is established and so designated by the President, through the Secretary of Defense with the advice and assistance of the Joint Chiefs of Staff.

United States Army Space Command (USARSPACE) The Army component command of USSPACECOM. Responsible for the Army elements of the SDS system. Located in Colorado Springs, CO.

United States Space Command (USSPACECOM) The unified command responsible for planning and conducting ballistic missile defense. Located in Colorado Springs, CO.

United States Strategic Command (USSTRATCOM) The DoD unified command responsible for carrying out directed nuclear and non-nuclear strategic air, intercontinental ballistic missile, and sea-launched ballistic missile offensive combat strikes. Located at Offutt AFB, NE.

United States
Transportation
Command
(USTRANSCOM)

The DoD unified command responsible for providing air, land, and sea transportation for the Department of Defense, both in time of peace and time of war. It is also responsible for providing airlift, sealift, surface transport, and terminal services, and commercial air, land, and sea transportation, including as needed to support the deployment, employment, and sustainment of U.S. forces on a global basis, as directed by the Secretary of Defense. Located at Scott AFB, IL.

Unresolved Objects Objects so closely spaced with respect to the sensor focal plane as to be indistinguishable from a single object.

UNSC

United Nations Security Council.

**UOES** 

See User Operational Evaluation System.

UPD

Unconventional Passive Discrimination.

UPS

Uninterruptible Power Source.

USA

1. United States Army. 2. Under Secretary of the Army.

USAAE

U.S. Army Acquisition Executive.

**USACOM** 

United States Atlantic Command, Norfolk, VA.

USAF

United States Air Force.

USAFE

U.S. Air Forces in Europe.

**USAFLANT** 

U.S. Air Force, U.S. Atlantic Command.

USAF/SMC

U.S. Air Force Space and Missile Systems Center, Los Angeles AFB, CA.

**USAKA** 

U.S. Army Kwajalein Atoll.

**USAMICOM** 

U.S. Army Missile Command, Redstone Arsenal, AL.

USAMSIC

see MSIC.

**USAOEC** 

U.S. Army Operational Evaluation Command, Alexandria, VA.

USARCENT

U.S. Army Forces, U.S. Central Command.

USAREUR

U.S. Army Forces, U.S. European Command.

USARLANT

U.S. Army Forces, U.S. Atlantic Command.

USARPAC

U.S. Army Forces, U.S. Pacific Command.

**USARSPACE** 

See United States Army Space Command.

**USASSDC** 

U.S. Army Space and Strategic Defense Command, Huntsville, AL.

USC

U.S. Code.

**USCENTAF** 

U.S. Central Command Air Forces.

**USCENTCOM** 

United States Central Command, MacDill AFB, FL.

USCINCCENT

Commander in Chief, U.S. Central Command.

USCINCEUR

U.S. Commander in Chief, Europe.

**USCINCLANT** 

Commander-in-Chief, U.S. Atlantic Command.

**USCINCPAC** 

Commander-in-Chief, U.S. Pacific Command.

**USCINCSPACE** 

Commander-in-Chief, U.S. Space Command.

**USCINCTRANS** 

Commander in Chief, U.S. Transportation Command.

USD(A&T)

Undersecretary of Defense (Acquisition and Technology).

USDAO

U.S. Defense Attaché Office.

USDELMC

U.S. Delegation to the NATO Military Committee.

USD(P)

Under Secretary of Defense for Policy.

USDR&E

Under Secretary of Defense for Research and Engineering.

**User Friendly** 

Primarily a term used in automatic data processing (ADP); it connotes a machine (hardware) or program (software) that is compatible with a person's

ability to operate it successfully and easily.

**User Operational Evaluation System** (UOES)

Prototypical system developed and tested as part of the early phases of the development process. A UOES has two objectives: (1) testing, evaluation, and training for a system proceeding through the normal acquisition process; and (2) contingency defense capability should the need arise prior to completion of

the normal acquisition cycle.

**USEUCOM** 

United States European Command, Stuttgart-Vaihingen, Germany.

USFJ

U.S. Forces Japan.

USFK

U.S. Forces Korea.

USFK/CFC

CSFK Combined Forces Command.

USG

U.S. Government.

USLANTFLT

U.S. Atlantic Fleet.

**USMAR-FORCENT** 

U.S. Marine Component, U.S. Central Command.

**USMAR-FORLANT** 

U.S. Marine Component, U.S. Atlantic Command.

**USMAR-FORPAC** 

U.S. Marine Component, U.S. Pacific Command.

**USMC** 

United States Marine Corps.

USMILREP

U.S. Military Representative.

USN

United States Navy.

**USNAVCENT** 

U.S. Naval Forces, U.S. Central Command.

USNAVEUR

U.S. Naval Forces, U.S. European Command.

**USPACAF** 

U.S. Air Forces, U.S. Pacific Command.

USPACOM

United States Pacific Command, Pearl Harbor, HI.

**USPACFLT** 

U.S. Pacific Fleet.

USREPMC

U.S. Representative to the Military Committee (NATO).

USSOCOM

United States Special Operations Command, Tampa, FL.

**USSOUTHCOM** 

United States Southern Command, Panama Canal Zone, Panama.

USSPACECOM

See United States Space Command.

**USSTRATCOM** 

See United States Strategic Command.

**USTRANSCOM** 

See United States Transportation Command.

UT

Universal Time.

UTC

Unit Type Code.

UTM

Universal Transverse Mercator.

UTTMDS

Upper Tier Theater Missile Defense System. See THAAD System.

**UV Electro-Optics** 

Technologies/techniques employed by optical sensors in the wavelength

spectrum shorter than visible (e.g., less than 4,000 A).

UW

Unconventional Warfare.

V&H

Vulnerability and Hardening.

V&V

Verification and Validation. (See Verification, Validation, and IV&V.)

**VAFB** 

Vandenberg Air Force Base, CA.

Validation

Confirmation that the processes and outputs from a test resource parallel real world processes and are realistically sensitive to change in the environment,

tactical situation, system design, tactics, and threat.

Variability

The manner in which the probability of damage to a specific target decreases with the distance from ground zero; or, in damage assessment, a mathematical factor introduced to average the effects of orientation, minor shielding, and uncertainty of target response to the effects considered.

**VBO** 

Vertical Burn-Out (velocity).

VCC

Voice Communications Circuit.

**VDC** 

Volts Direct Current.

**VDU** 

Visual Display Unit.

VE

Value Engineering.

VECP

Value Engineering Change Proposal.

Verification

1. Confirmation that all data inputs, logic, calculations and engineering representations of a T&E resource accurately portray the characteristics, calculations, logic, and interactions of the system under evaluation. 2. The process of evaluating a system or component during or at the end of the development process to determine whether it satisfies specified requirements.

VHF

Very High Frequency.

VHSIC

Very High Speed Integrated Circuit.

VINSON

Encrypted Ultra High Frequency Communications System.

Visibility Range (or Visibility)

The horizontal distance (in kilometers or miles) at which a large dark object can just be seen against the horizon's sky in daylight. The visibility is related to the clarity of the atmosphere ranging from 170 miles (280 kilometers) for an exceptionally clear atmosphere to 0.6 mile (1.0 kilometer) or less for dense haze or fog. The visibility on an average clear day is taken to be 12 miles (19 kilometers).

Visible Electro-

**Optics** 

Technologies/techniques employed by optical sensors in the visible portion of the wavelength spectrum.

**VLF** 

Very Low Frequency.

**VLOS** 

Vertical Line of Sight.

**VLS** 

Vertical Launch System.

**VLSI** 

Very Large Scale Integration.

**VLSIC** 

**VLSI Circuits.** 

**VLWIR** 

Very Long Wavelength Infrared.

VOX

Voice Actuation.

VTC

Video Teleconference.

**VTOL-UAV** 

Vertical Takeoff and Landing Unmanned Aerial Vehicle.

VUE

Visible Light/Ultraviolet Experiment.

VV&A

Verification, Validation, and Accreditation.

WAA

Wide Aperture Array.

WALEX

Warfare Analysis Laboratory Exercise.

WAM

1. Worldwide Military Command and Control System (WWMCCS). 2. Wide

Area Munition. 3. Wide Area Mine. 4. Wide Area Missile.

WAP

Wide Azimuth Probe.

War Game

A simulation, by whatever means, of a military operation involving two or more opposing forces, using rules, data, and procedures designed to depict an actual

or assumed real life situation.

Warhead

A weapon, usually thermonuclear, contained as the payload of a missile.

Warhead Mating

The act of attaching a warhead section to a rocket or missile body, torpedo,

airframe, motor, or guidance section.

**Warhead Section** 

A completely assembled warhead including appropriate skin sections and related components.

WARM

See Wartime Reserve Modes.

Warning of Attack

A warning to national policymakers that an adversary is not only preparing its armed forces for war, but intends to launch an attack in the near future.

Warning Order

A preliminary notice of an order or action that is to follow.

Wartime Reserve Modes (WARM) Characteristics and operating procedures of sensor, communications, navigation aids, threat recognition, weapons, and countermeasures systems that (1) will contribute to military effectiveness if unknown to or misunderstood by opposing commanders before they are used, but (2) could be exploited or neutralized if known in advance. Wartime reserve modes are deliberately held in reserve for wartime or emergency use and seldom, if ever, applied or intercepted prior to such use.

Wastage (Max)

The maximum number of defense weapons which, when used, will be ineffective in contributing to the defeat of the offense.

WB

Wideband.

Watch Condition (WATCHCON)

Series of readiness conditions used by the intelligence community to alert staffs to watchfulness without raising DEFCON.

Wave

Time grouping of offensive Reentry Vehicles constrained by launcher inventories.

Invento

Wavelength

The distance between two points having the same phase in two consecutive cycles of a periodic wave, along a line in the direction of propagation.

WBM

Weapons Battle Manager(s).

WBS

See Work Breakdown Structure.

WCC

1. See Wing Control Center. 2. Weapons Control Computer.

WCP

Weapon Control Processor.

wcs

Weapons Control System.

Weapon Enabling

The set of control functions without which defense weapons cannot be launched.

Weapon Engagement Zone In air defense, airspace of defined dimensions within which the responsibility normally rests with a particular weapon system.

Weapons Allocation Designation of a certain weapon to attack a certain threat after Engagement Authorization is given.

Weapons Assignment In air defense, the process by which weapons are assigned to individual air weapons controllers for use in accomplishing an assigned mission. Assignment of a particular interceptor to a particular target.

Weapons Commitment Authorization to allocate certain weapons to designated targets thus permitting checklist actions to be taken.

Weapons Control

The varying degree of formal control an area air defense commander exercises over all air defense weapons in his area of responsibility.

Weapons Enablement Authorization to place a weapon into its most ready state but prior to release.

Weapons Free

A weapon control order imposing a status whereby weapons systems may be fired at any target not positively recognized as friendly.

Weapons Hold

A weapon control order imposing a status whereby weapons systems may be fired in self-defense or in response to a formal order.

Weapons Initiation

State when a weapon system is to be placed in the highest state of readiness shy of weapon allocation. It is possible to go direct to weapons allocation or release without first initiation or allocation.

Weapons of Mass Destruction (WMD) In arms control usage, weapons that are capable of a high order of destruction and/or of being used in such a manner as to destroy large numbers of people.

Weapons Readiness State The degree of readiness of air defense weapons which can become airborne or be launched to carry out an assigned task. Weapons readiness states are expressed in number of weapons and number of minutes.

Weapons Release Authority (WRA) The order that gives weapon controllers the authority to fire. (USSPACECOM)

Weapons System

Items that can be used directly by the armed forces to carry out combat missions and that cost more than \$100,000 or for which the eventual total procurement cost is more than \$10,000,000. That term does not include commercial items sold in substantial quantities to the general public.

Weapon System Control

That set of assessment, decision, and direction functions normally implemented automatically to assure that individual weapons are pointed, fired, and guided as necessary to intercept the designated attackers.

Weapon Target Assignment (WTA) The assignment of an interceptor to a particular threat object. In Midcourse, a WTA requires in-flight communication between the Battle Manager and an inflight interceptor. To ensure the Battle Manager maintains the ephemeris of the interceptor, the WTA will constraint the interceptor's flight error.

Weapons Tight

A weapon control order imposing a status whereby weapons systems may be fired only at targets recognized as hostile.

Weapons System Employment Concept A description in broad terms, based on established outline characteristics, of the application of a particular equipment or weapon system within the framework of tactical concept and future doctrines.

Western Test Range (WTR) Beginning at Vandenberg AFB, CA, this range stretches half-way around the globe where it meets the Eastern Test Range. An array of launch complexes, sensors, and tracking sites makes up the Western Test Range. It is operated by the Space and Missile Test Organization (SAMTO), a unit of AFSPACECOM as of 1 October 1990.

WEZ

Weapon Engagement Zone.

WFF

Wallops Flight Facility, Wallops Island, VA.

**WFOV** 

Wide Field of View.

Wing Control Center (WCC) A second Space Wing center that logistically/administratively controls operational satellite systems operated by them at worldwide locations.

WIS

WWMCCS Information System.

Withhold

1. A term used in a pre-planned response option (PRO) to identify the withholding of part of the space or ground weapon inventory against detected threat launches, in anticipation of follow-on attacks. 2. (Nuclear) The limiting of authority to employ nuclear weapons by denying their use within specified geographical areas of certain countries.

WL

Wright Laboratory, Wright-Patterson AFB, OH.

WMD

Weapons of Mass Destruction.

WMP

War and Mobilization Plan.

WNINTEL

Warning Notice - Intelligence Sources or Methods Involved.

WOC

Wing Operations Center.

#### Work Breakdown Structure (WBS)

1. A product-oriented family tree division of hardware, software, services, and other work tasks which organizes, defines, and graphically displays the product to be produced, as well as the work to be accomplished to achieve the specified product. 2. A hierarchical diagram used to depict the tasks, capital, and resources required during the development of a product.

#### Work Packages

Detailed short-span jobs, or material items, identified by the contractor for accomplishing work required to complete the contract.

Worldwide Indications Monitoring System (WWIMS) A confederation of national, unified, and specified command and other intelligence centers and facilities. The primary mission of the WWIMS system is to monitor, maintain, and report on Indications and Warning (I&W) activity.

World-Wide Military Command and Control System (WWMCCS) The system that provides the means for operational direction and technical administrative support involved in the function of command and control of U.S. military forces. The system comprises: The NMCS - The command and control systems of the unified and specified commands - The WWMCCS-related management/information systems of the headquarters of the Military Departments - The command and control systems of the headquarters of the service component commands - The command and control support systems of DoD agencies. The system furnishes a multi-path channel of secure communications to transmit information from primary sources to those who must make decisions (including the President) and to transmit their decisions (in the form of military orders) to subordinates.

**WPAFB** 

Wright-Patterson AFB, Dayton OH.

WPD

Work Package Directive.

WRA

See Weapons Release Authority.

WRM

War Reserve Materiel.

WRSK

War Reserve Spares Kit.

WSE

Weapon Support Equipment.

WSI

Wafer-Scale Integration.

WSMC

Western Space and Missile Center, Vandenberg AFB, CA.

**WSMR** 

1. White Sands Missile Range, NM 2. Western Space and Missile Range.

WTA

Weapon Target Assignment.

WTP

Weapon Test Plan.

WTR

Western Test Range.

**WWIMS** 

See Worldwide Indications Monitoring System.

**WWMCCS** 

See World-Wide Military Command and Control System.

**XCVR** 

Transceiver.

**XDS** 

Exoatmospheric Defense System.

ΧO

**Executive Officer.** 

X-Ray Laser (XRL)

A laser that generates a beam or beams of x-rays. Also called an "X-raser."

X-Rays

Electromagnetic radiation of high energy which results from either the release of energy from electrons changing orbits about the nucleus (discrete) or the inelastic collision of charged particles with the electromagnetic field of the nucleus. X-rays have wavelengths shorter than those in the ultraviolet region, e.g., less than 10E-6 cm or 100 Angstroms. Materials at very high temperatures (millions of degrees) emit such radiations; they are then called thermal x-rays. As generally produced by x-ray machines, they are "bremsstrahlung" resulting from the interaction of electron of 1 kiloelectron-volt or more energy with a metallic target. (See Electromagnetic Radiation and Thermal X-Rays.)

**XRL** 

See X-Ray Laser.

Yield (or Energy Yield)

The total effective energy released in a nuclear (or atomic) explosion. It is usually expressed in terms of the equivalent tonnage of TNT required to produce the same energy release in an explosion. The total energy yield is manifested as nuclear radiation, thermal radiation, and shock (and blast) energy, the actual distribution being primarily dependent upon the medium in which the explosion occurs, as well as the type of weapon and the time after detonation.

**Zero Point** 

The location of the center of a burst of a nuclear weapon at the instant of detonation. The zero point may be in the air or on or beneath the surface of land or water, dependent upon the type of burst; it is thus to be distinguished from ground zero.

ZULU

Time Zone Indicator for Universal Time.

## **Units of Measurement**

Keyword/Symbol			Unit Name	Aspect Measured
ſ	Α	1	ampere	electric current
ľ	angstrom	j	angstrom	length
ŗ	b	í	bit	binary digit 0 or 1
ľ	bps	ì	bit per second	bit transfer rate
ľ	C	í	coulomb	electric charge
ľ	c; Ci	i	curie	radioactivity
ľ	cal	1	calorie	energy
ľ		í	calorie per square	energy per area
ſ	cal/sq cm	,	centimeter	
r	ahan	1	channel	frequency path
1	chan	J	centimeter	length
ļ	cm	ı I	cubic centimeter	volume
l	cu cm	j	decibel	signal strength
l	dB	j		plane angle
l	deg	ì	degree degree, Kelvin	temperature
[	deg K	]	degree per second	plane angle change rate
I	deg/s	j	- i	slew acceleration
[	deg/s/s	]	degree per second	
			per second	length
I	diam	j	diameter	force
I	dyn	]	dyne electron-volt	energy
I	eV	]		magnetic flux density
[	G	]	gauss 1) 9.808 meters per sec-	1) gravitational accelera-
[	9	}	ond per second; 2) gram	tion constant; 2) mass
				frequency
[	GHz	]	gigahertz	absorbed dose
[	Gy	]	gray	time
[	h	1	hour	frequency
ſ	Hz	j	hertz	energy
[	J	j	joule Joule -Thomson	temperature change
[	J-T	]		temperature
[	К	]	Kelvin	electric current
[	kA	Ī	kiloampere	binary digit
I	kb	]	kilobit	velocity (binary digit)
ſ	kb/s	]	kilobit per second	energy
[	KeV	]	kiloelectron-volt	pressure
[	kg/sq m	}	kilogram per square	pressure
			meter	frequency
[	KHz	1	kilohertz	energy
[	kJ	]	kilojoule	specific energy
[	kJ/kg	]	kilojoule per kilo- gram	
[	kJ/sq cm	]	kilojoule per square centimeter	laser lethality
[	km	1	kilometer	length
ſ	km/s	j	kilometer per second	velocity
ľ	KT	i	kiloton	yield
[	kV	í	kilovolt	electromotive force
[	kW	i	kilowatt	power
[	kW/kg	]	kilowatt per kilogram	specific power
L	KAALUA	•		

Keyword/Symbol			Unit Name	Aspect Measured
[	kW/m	1	kilowatt per meter	thermal transport
I	kW/sq cm	j	kilowatt per square	energy flux
L	KW/3Q CIII	,	centimeter	
r	m	]	meter	length
ĺ		]	megabit per second	bit transfer rate
[	Mbps	-	megaelectron-volt	energy
[	MeV MFLOPS	]	million floating point	processing performance
[	MIFLOPS	1	operations per second	•
	9 dl 1-	,	megahertz	frequency
l	MHz	J	micro	a one-millionth part
i	micro	]	micrometer	length
I	micron	]	milli	a one-thousandth part
l	milli	]	minute	time
l	min	]	million instructions	processing speed
l	mips	]	per second	
			megajoule	energy
Ī	MJ	]	millimeter	length
I	mm	]	million operations	processing performance
[	mops	]	per second	processing p
		,	milliradian	plane angle
ļ	mrad	]	meter per second	velocity
l	m/s	]	millisecond	time
l	ms MT	] ]	megaton	yield
L	MV/m	1	megavolt per meter	electric field strength
ľ	MW	1	megawatt	power
1	MW/sr	j	megawatt per steradian	laser brightness
ľ	N-s	i	newton-second	force
ſ	ns	í	nanosecond	frequency
i	parsec	]	parsec	astronomical distance
i	Pa-s	j	pascal-second	pressure
í	R	]	roentgen	radiation dose
i	RAD	]	rad	absorbed dose
i	radian	]	radian	plane angle
i	rad/s	]	radian per second	angular drift
Ī	ratio	]	percentage	efficiency ionizing radiation
[	rem	]	rem	time
[	s	]	second	area
ľ	sq m	1	square meter	area per time
[	sq m/yr	]	square meter per year	absorbed radiation dose
I	sr	]	steradian	plane angle
Į	mrad	]	microradian	electromotive force
[	V	]	volt	power
ĺ	W	J	watt watt per kilogram	specific power
Ī	W/kg	j	watt per knogram	heat flux
[	W/sq cm	1	centimeter	
		,	watt per square meter	energy flux
[		}	watt per steradian	radiant intensity
[		]	watt per steradian	radiance
I	W/sr sq m	]	square meter	
		]	year	time
ı	yr	1	,	

DEPARTMENT OF DEFENSE BALLISTIC MISSILE DEFENSE ORGANIZATION 7100 DEFENSE PENTAGON WASHINGTON, DC 20301-7100